



**LIMITED GEOTECHNICAL EVALUATION
NRG EL SEGUNDO POWER REDEVELOPMENT
EL SEGUNDO, CALIFORNIA**

PREPARED FOR:

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November 10, 2006
Project No. 206954001

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Mr. James Meisenheimer
Stone & Webster, Inc.
9201 East Dry Creek Road
Centennial, Colorado 80112

Subject: Limited Geotechnical Evaluation
NRG Power Redevelopment Project
El Segundo, California

Dear Mr. Meisenheimer:

In accordance with your request and authorization, we have performed a limited geotechnical evaluation for the proposed NRG Power Redevelopment Project located at 301 Vista Del Mar in El Segundo, California. Our evaluation was performed to assess the feasibility of the proposed project with respect to the soil and geologic conditions at the subject site. This report presents our geotechnical findings, conclusions, and preliminary recommendations relative to the project.

We appreciate the opportunity to be of service on this project.

Respectfully submitted,
NINYO & MOORE

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1. INTRODUCTION

In accordance with your request and authorization, we have performed a limited geotechnical evaluation for the proposed NRG El Segundo Power Redevelopment Project located at 301 Vista Del Mar in El Segundo, California (Figure 1). We understand that the proposed project includes the design and construction of a combined cycle power project consisting of two gas-fired combustion turbine/generators, a steam turbine generator and support facilities including transformers, storage tanks, and control room/administrative facilities. The purpose of our limited evaluation was to assess the suitability of the site for the proposed improvements from a geotechnical perspective. This report presents our preliminary geotechnical findings, conclusions, and recommendations regarding the proposed structures.

2. SCOPE OF SERVICES

Our scope of services included the following:

- Project coordination and review of readily available background materials pertaining to the project, including geologic maps and literature, stereoscopic aerial photographs, and in-house information.
- Review of boring logs prepared by previous consultants.
- Attendance at an on-site meeting with the client and the representatives of the NRG El Segundo Operations, Inc., to discuss various issues related to subsurface exploration.
- Geotechnical site reconnaissance to observe the general site conditions, to select and mark the proposed cone penetration test (CPT) sounding locations, and to coordinate with Underground Service Alert for utility clearance.
- Subsurface exploration consisting of ten CPT soundings to depths ranging from approximately 8 to 26 feet below the existing ground surface. Hand-augering was performed at each CPT location to a depth of about 5 feet below the surface, and bulk soil samples were collected for laboratory testing.
- Laboratory soil corrosivity testing of selected soil samples.
- Compilation and geotechnical analyses of the field and laboratory data.

- Preparation of this report presenting our findings, conclusions, and preliminary recommendations regarding the geotechnical aspects of design and construction of the proposed improvements.

3. SITE DESCRIPTION & BACKGROUND

The site for the proposed project is located within the existing NRG El Segundo Power Plant at 301 Vista Del Mar in El Segundo, California (Figure 1). The proposed project will be constructed within the area and footprint of the existing decommissioned Unit 1 and 2 Power Plants, which are scheduled to be demolished. The subject site is situated on relatively level terrain near the southern end of El Segundo Beach. The site is currently at an elevation of approximately 19.5 feet above mean low level water (MLLW).

The site for the proposed gas and steam turbine units and the related structures is roughly rectangular in shape, and is surrounded by a garage and propane storage structure to the west, a warehouse to the north, an administrative building and associated at-grade parking to the east, the existing Unit 3 Power Plant to the south, and Pacific Ocean to the west. Vista Del Mar is located approximately 250 feet to the east of the site, atop an approximately 1 $\frac{3}{4}$:1 (horizontal to vertical) slope, at elevations of approximately 74 to 83 feet above MLLW. The existing improvements on site consist of asphalt paved driveways, parking lots, and lawn areas.

Woodward-Clyde Consultants installed four monitoring wells within the site in 1997 and 1998. One of the installed wells is located to the west and two are located to the southwest of the proposed area of redevelopment. The depths of the wells ranged from approximately 30½ to 76 feet below the existing ground surface. The boring logs for these monitoring wells were provided to Ninyo & Moore by Stone & Webster, Inc.

4. PROPOSED CONSTRUCTION

The Engineering Services Scope of Work provided by Stone & Webster, Inc., indicates that the proposed improvements will consist of two gas-fired combustion turbine/generators, a steam turbine generator and support facilities including transformers, storage tanks, and control

room/administrative facilities. We understand that the gas turbine and steam turbine generator will be located within the area and footprint of the presently decommissioned Unit 1 and 2 Power Plants. The layout of the turbines has not yet been finalized. The structural loads of the turbines and related improvements were not available at the time of preparation of this report.

5. SUBSURFACE EVALUATION AND LABORATORY TESTING

Our subsurface exploration at the subject site was performed on October 11 and 12, 2006, and consisted of ten CPT soundings to depths ranging from approximately 8 to 26 feet below the existing grade. The CPT operations were performed by Holguin, Fahan & Associates, Inc., of Orange, California. The CPT locations were selected by Stone & Webster, Inc.. The approximate locations of the CPT soundings are shown on Figure 2. At each CPT location, hand-augering was performed to a depth of approximately 5 feet below the ground surface. The CPT soundings were observed by a representative from our firm, and bulk soil samples were obtained from the hand-augered portions of the CPT holes for laboratory testing. The CPT sounding logs are presented in Appendix A. Laboratory testing of representative soil samples was performed to evaluate soil corrosivity. The corrosivity test results are presented in Appendix B.

6. GEOLOGY AND SUBSURFACE CONDITIONS

6.1. Regional Geology

The site for the proposed improvements is located within the Los Angeles Basin, which is bounded on the north by the Transverse Ranges geomorphic province (Norris and Webb, 1990). The Los Angeles Basin has been divided into four blocks, which are generally separated by prominent fault systems: the northwestern block, the southwestern block, the central block, and the northeastern block. The project area is located within the southwestern block, which is bounded on the east by the onshore segment of the Newport-Inglewood Fault Zone. The southwestern block includes anticlinal and synclinal structural features within the basement rocks that are overlain by younger sedimentary rocks and alluvium.

The Los Angeles Basin is traversed by several major active faults as shown on the Fault Location Map (Figure 3). The Palos Verdes and Newport-Inglewood fault zones are major active faults within the southwestern block of the Los Angeles Basin. Our review of geologic literature indicates that a segment of the Palos Verdes fault is located about 3 miles the southwest of the site. The on-shore segment of the Newport-Inglewood fault is located approximately 6 miles to the northeast of the site.

6.2. Site Geology

Based on our review of stereoscopic aerial photographs and pertinent geologic maps, the site is underlain by Holocene-age alluvial and dune deposits consisting of silty sand and sand. Our review of the logs of previous exploratory borings prepared by Woodward-Clyde Consultants indicates the presence of fill material to depths of up to approximately 2 feet below the existing ground surface on parts of the site. The results of our CPT soundings indicate that fill and alluvial soils generally consist of alternating layers of medium dense to very dense sand, clayey sand, silty sand, gravelly sand and sandy silt and firm to hard, clayey silt and silty clay to the explored depths. More detailed descriptions of the subsurface soils are presented on the CPT sounding logs in Appendix A.

6.3. Groundwater

Groundwater was encountered in our CPT holes at depths of approximately 11 to 13 feet below the ground surface. Fluctuations in groundwater levels may, however, occur due to tidal fluctuations, variations in precipitation, ground surface topography, subsurface stratification, local irrigation, and other factors which may not have been evident at the time of our field evaluation.

7. FAULTING AND SEISMICITY

Based on our review of referenced geologic maps and stereoscopic aerial photographs, the ground surface in the vicinity of the subject site is not mapped as being transected by any known active or potentially active fault; therefore, the potential for surface fault rupture is considered to

be low. The site is not located within a State of California Earthquake Fault Zone (Alquist-Priolo Special Studies Zone, Hart and Bryant, 1997). However, the subject site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion at the site is considered significant. Figure 3 shows the approximate site location relative to the major faults in the region. The nearest known active fault is the Palos Verdes fault located approximately 3 miles southwest of the site.

Table 1 lists selected principal known active faults that may affect the subject site, the maximum moment magnitude M_{\max} as published for the California Geological Survey (CGS) by Cao et al. (2003), and the type of fault as defined in Table 16A-U of the California Building Code (CBC, 2001). The approximate fault to site distances were calculated by the computer program FRISKSP developed by Blake (2001a).

Table 1 – Principal Active Faults

Fault	Approximate Fault to Site Distance in miles (km)	Maximum Moment Magnitude¹ (M_{\max})	Fault Type²
Palos Verdes	3.2 (5.1)	7.3	B
Newport-Inglewood (L.A. Basin)	6.2 (10.0)	7.1	B
Santa Monica	9.5 (15.3)	6.6	B
Malibu Coast	10.6 (17.1)	6.7	B
Hollywood	12.3 (19.8)	6.4	B
Puente Hills Blind Thrust	12.6 (20.3)	7.1	B
Northridge	17.0 (27.3)	7.0	B
Verdugo	20.4 (32.9)	6.9	B
Sierra Madre	24.9 (40.1)	7.2	B
San Andreas – 1857 Rupture	47.8 (76.9)	7.4	A
Notes: ¹ Cao et al. 2003. ² CBC, 1997; Cao et al., 2003.			

The principal seismic hazards at the subject site are surface ground rupture, ground shaking, seismically induced liquefaction, and various manifestations of liquefaction-related hazards (e.g., dynamic settlements and lateral spreading). A brief description of these hazards and the potential for their occurrences on site are discussed in the following sections.

7.1. Ground Rupture

The probability of damage from surface ground rupture is low due to the lack of known active faults directly underlying the subject site or its vicinity. Surface ground cracking related to shaking from distant events is not considered a significant hazard, although it is a possibility.

7.2. Ground Motion

Our evaluation of the ground shaking hazard included review of a probabilistic seismic hazard assessment that consisted of statewide estimates of peak horizontal ground accelerations conducted for California (Peterson, et al., 1996). In addition, for the purposes of evaluating seismically induced geotechnical hazards at the site, a site-specific probabilistic seismic hazard analysis was performed to evaluate anticipated peak ground accelerations (PGAs) using the computer program FRISKSP developed by Blake (2001a). A probabilistic analysis incorporates uncertainties in time, recurrence intervals, size, and location (along faults) of hypothetical earthquakes. This method thus accounts for likelihood (rather than certainty) of occurrence and provides levels of ground acceleration that might be more reasonably hypothesized for a finite exposure period. FRISKSP calculates the probability of occurrence of various ground accelerations at a site over a period of time and the probability of exceeding expected ground accelerations within the lifetime of the proposed structures from the significant earthquakes within a specific radius of search. For the present case, a search radius of 62 miles (100 kilometers) was selected. The earthquake magnitudes used in this program are based on the current CGS fault model.

The published guidelines of CGS (2004) define a PGA with a 10 percent probability of exceedance in 50 years as the Design Basis Earthquake (PGA_{DBE}) ground motion, and this value is typically used for residential, commercial and industrial structures. The PGA with a 10 percent probability of exceedance in 100 years is defined as the Upper Bound Earthquake (PGA_{UBE}) ground motion and is used for public schools, hospitals and other essential facilities in California. The statistical return periods for the PGA_{DBE} and PGA_{UBE} are approximately 475 and 949 years, respectively.

In evaluating the seismic hazards associated with the subject site, we have considered a PGA that has a 10 percent probability of being exceeded in 50 years (i.e., PGA_{DBE}) and used an attenuation relation proposed by Boore, et al. (1997) for soil Type D (with an average shear wave velocity of 250 meters per second). The PGA_{DBE} for the site was calculated as 0.39g when weighted to an earthquake magnitude of 7.5. The PGA_{DBE} increases to 0.47g when no magnitude weighting factor is considered in probabilistic seismic hazard analysis. These estimates of ground motion do not include near-source factors that may be applicable in the design of structures on site.

7.3. Liquefaction

Liquefaction is the phenomenon in which loosely deposited, saturated, granular soils (located below the water table) with clay contents (particles less than 0.005 mm) of less than 15 percent, liquid limit of less than 35 percent, and natural moisture content greater than 90 percent of the liquid limit undergo rapid loss of shear strength due to development of excess pore pressure during strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure, and it eventually causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

Based on our review of the State of California Seismic Hazards Zones map (CDMG, 1999), the subject site is not located in a mapped liquefaction hazard zone, but is located approximately 200 feet from an area mapped as being susceptible to liquefaction during a seismic event. A preliminary liquefaction evaluation of subsurface soils was performed during this study using the CPT sounding results and considering a historic high groundwater level at a depth of 5 feet below the existing grade. The liquefaction analysis was based on the NCEER procedure (Youd and Idriss, 1997) developed from the methods originally recommended by Seed and Idriss (1982) using the computer program LIQUEFY2 (Blake, 2001b). A magni-

tude-weighted PGA_{DBE} of 0.39g was used in our analysis for an earthquake magnitude of 7.5. Our liquefaction analysis indicates that some of the granular soil layers located below the historic high groundwater level may liquefy during the design seismic event to a depth of approximately 15 feet below the ground surface. However, the potential for liquefaction or liquefaction related hazards is considered low within the footprint of the proposed project.

7.4. Dynamic Settlement of Saturated Soils

The phenomenon of soil liquefaction may result in several hazards including liquefaction-induced settlement. In order to estimate the amount of post-earthquake settlement, the method proposed by Tokimatsu and Seed (1987) is generally used in which the seismically induced cyclic stress ratios and corrected blow counts (N-values) are correlated to the volumetric strain of the soil. The amount of soil settlement during a strong seismic event depends on the thickness of the liquefiable layers and the density and/or consistency of the soils.

A post-earthquake dynamic ground settlement of approximately 1¾ inches is estimated to occur in relatively saturated soils located below the groundwater to a depth of approximately 15 feet. Based on the guidelines presented in CDMG Special Publication 117 (1997), we estimate that differential settlement on the order of 1 inch or less may occur over a horizontal distance of 15 feet. The dynamic settlement magnitudes may vary across the site; however, the estimates presented here should be considered preliminary and conservative.

7.5. Ground Subsidence

Based on the design curves developed by Ishihara (1995) and considering the thickness of the non-liquefiable near-surface layers overlying the liquefiable soil layers, the potential for ground subsidence, sand boils and/or seismically induced bearing failure is considered to be moderate if the proposed improvements are to be constructed at the present grade. In the event the site grade for the proposed improvements is raised, the potential for ground subsidence will be reduced.

7.6. Lateral Spreading

Lateral spreading of the ground surface during an earthquake usually takes place along weak shear zones that have formed within a liquefiable soil layer. Lateral spread has generally been observed to take place in the direction of a free-face (i.e., retaining wall, slope, channel) but has also been observed to a lesser extent on ground surfaces with gentle slopes. An empirical model developed by Bartlett and Youd (1995, revised 1999) is typically used to predict the amount of horizontal ground displacement within a site. For sites located in proximity to a free-face, the amount of lateral ground displacement is strongly correlated with the distance of the site from the free-face. Other factors such as earthquake magnitude, distance from the earthquake epicenter, thickness of the liquefiable layers, and the fines content and particle sizes of the liquefiable layers also affect the amount of lateral ground displacement. Based on the relative density of the potentially liquefiable soil layers, the site is not considered susceptible to seismically induced lateral spread.

8. CONCLUSIONS

Based on our limited evaluation of soil and geologic conditions at the site, the proposed project is feasible from a geotechnical perspective. There are no known geotechnical conditions that would preclude the proposed construction provided the recommendations of this report and appropriate construction practices are followed. In general, the following conclusions were made based on our limited evaluation:

- The site is underlain by fill and alluvial soils generally consisting of alternating layers of medium dense to very dense sand, clayey sand, silty sand, gravelly sand and sandy silt and firm to hard, clayey silt and silty clay to the explored depths.
- Groundwater was encountered at a depth of about 11 to 13 feet below the surface at the time of our CPT sounding. Groundwater should be anticipated and planned for by the contractor during construction of deeper foundation elements for the proposed structures.
- The fill and alluvial soils should be generally excavatable with earthmoving equipment in good working condition.

- We estimate a peak ground acceleration (PGA_{DBE}) of 0.39g for an earthquake magnitude of 7.5 at the subject site that has a 10 percent probability of being exceeded in 50 years. We also estimate a PGA_{DBE} of 0.47g when no magnitude weighting factor is applied.
- The subsurface soils are susceptible to liquefaction during the design seismic event. Our analysis indicates that some of the granular soil layers to a depth of approximately 15 feet below the existing grade could liquefy during the design seismic event.
- A post-earthquake dynamic ground settlement of approximately 1¾ inches is estimated to occur in relatively saturated soils located below the groundwater to a depth of approximately 15 feet. We estimate that differential settlement on the order of 1 inch or less may occur over a horizontal distance of 15 feet.
- The potential for ground subsidence, sand boils and/or seismically induced bearing failure is considered to be relatively moderate. In the event the site grade for the proposed improvements is raised, the potential for ground subsidence will be reduced.
- Liquefaction-induced lateral spread is not expected at the proposed site.
- The site is not located within a State of California Earthquake Fault Zone (Alquist-Priolo Special Studies Zone). Based on our review of published geologic maps and aerial photographs, no known active or potentially active faults underlie the site. The potential for surface fault rupture at the site is considered to be low.

9. RECOMMENDATIONS

In the following sections, we provide preliminary geotechnical recommendations for the design and construction of the proposed project. These recommendations are based on our limited evaluation of the site geotechnical conditions and our understanding of the planned development. Further subsurface evaluation should be performed within the project area following demolition of the Unit 1 and 2 Power Plants. Ninyo & Moore should be contacted for this additional evaluation. Based on the findings from this evaluation, recommendations presented below may be modified and/or expanded.

9.1. Earthwork

Based on our understanding of the project, the majority of the earthwork at the site is expected to consist of excavation of the underlying earth materials for removal of underground foundations and utilities and backfilling with compacted sand and structural fill for the con-

struction of the new structures. Other earthwork performed at the site may include trenching for pipelines and various utilities, as well as minor grading for the new asphalt concrete pavement and surface drainage. Earthwork should be performed in accordance with the recommendations presented in the following sections and the requirements of the applicable governing agencies.

9.1.1. Construction Plan Review and Pre-Construction Conference

We recommend that the grading and foundation plans be submitted to Ninyo & Moore for review to check for conformance to the recommendations provided in this report. We further recommend that a pre-construction conference be held in order to discuss the grading recommendations presented in this report. The owner and/or their representative, the civil engineer, Ninyo & Moore, and the contractor should be in attendance to discuss the work plan, project schedule, and earthwork requirements.

9.1.2. Site Preparation

Prior to excavation and placement of fill, the foundation bearing area for critical structures should be cleared of existing structures, pavements, abandoned utilities (if present), and stripped of rubble, debris, vegetation, any loose, wet, or otherwise unstable soils, as well as surface soils containing organic material. Obstructions that extend below the finished grade, if any, should be removed and the resulting holes filled with compacted soil. Materials generated from the clearing operations that are unsuitable for reuse and engineered backfill material should be removed from the site and disposed of at a legal dumpsite away from the project area.

9.1.3. Excavation Characteristics

Our evaluation of the excavation characteristics of the on-site materials at the subject site is based on the results of our CPT soundings and our experience with similar materials. In our opinion, the on-site fill and alluvial soils should be generally excavatable with heavy-duty earthmoving equipment in good working condition.

9.1.4. Treatment of Foundation Soils

The near-surface fill and/or alluvial soils are not considered suitable for structural foundation support. We recommend that the fill and alluvial soils be removed to a depth of 3 feet below the bottom of the planned lowest foundation bottom elevation and replaced with generally granular compacted structural fill with a very low to low expansion potential (i.e., an expansion index [EI] of less than 50 as evaluated in accordance with UBC Standard 18-2 [ICBO, 1997]). The base of the overexcavation should extend 3 feet plus the depth of the removal beyond the structural areas. The extent of and depths to which the fill and alluvial soils are to be removed for the proposed structures should be evaluated by the authorized geotechnical engineer in the field based on the materials exposed. Any unsuitable materials such as organic matter or oversized material should be selectively removed and disposed of offsite.

9.1.5. Temporary Excavations

We recommend that trenches and excavations be designed and constructed in accordance with Occupational Safety and Health Administration (OSHA) regulations. These regulations provide trench sloping and shoring design parameters for trenches up to 20 feet deep based on the soil types encountered. Trenches over 20 feet deep should be designed by the contractor's engineer based on site-specific geotechnical analyses. For planning purposes, we recommend that fill and alluvium be considered as OSHA soil type C.

Temporary excavations should be constructed in accordance with OSHA recommendations. For trench or other excavations, OSHA requirements regarding personnel safety should be met by using appropriate shoring (including trench boxes) or by laying back the slopes no steeper than 1.5:1 (horizontal to vertical) in fill and alluvium. Temporary excavations that encounter seepage may need shoring or may be stabilized by placing sandbags or gravel along the base of the seepage zone. Excavations encountering seepage should be evaluated on a case-by-case basis. On-site safety of personnel is the

responsibility of the contractor. Recommendations for temporary shoring can be provided, if requested.

9.1.6. Fill Material

In general, the on-site soils are considered suitable for reuse as fill. On-site and import fill soils should be free of trash, debris, roots, vegetation, or deleterious materials. Fill should generally be free of rocks or hard lumps of material greater than approximately 4 inches in diameter. Rocks or hard lumps larger than about 4 inches in diameter should be broken into smaller pieces or should be removed from the site. Imported materials should consist of clean, granular material with a very low to low expansion potential, corresponding to an EI of 50 or less. Import materials should also be non-corrosive in accordance with the Caltrans (2003) corrosion guidelines. Import material should be submitted to the project geotechnical consultant for review prior to importing to the site. The contractor should be responsible for the uniformity of import material brought to the site.

9.1.7. Fill Placement and Compaction

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed ground surface by the authorized geotechnical engineer. Unless otherwise recommended, the exposed ground surface should then be scarified to a depth of approximately 12 inches and moisture conditioned, as needed, to achieve moisture contents generally near the optimum moisture content. The scarified materials should then be compacted to a relative compaction of at least 90 percent as evaluated in accordance with American Society for Testing and Materials (ASTM) test method D 1557. The evaluation of compaction by the authorized geotechnical engineer should not be considered to preclude any requirements for observation or approval by governing agencies. It is the contractor's responsibility to notify the authorized geotechnical engineer and the appropriate governing agency when the project area is ready for observation, and to provide reasonable time for that review.

Fill materials should be moisture conditioned to near the laboratory optimum moisture content prior to placement. The optimum moisture content will vary with material type and other factors. Moisture conditioning of fill soils should be generally consistent within the soil mass.

Prior to placement of additional compacted fill material following a delay in the grading operations, the exposed surface of previously compacted fill should be prepared to receive fill. Preparation may include scarification, moisture conditioning, and recompaction.

Compacted fill should be placed in horizontal lifts of approximately 8 inches in loose thickness. Prior to compaction, each lift should be moisture conditioned as needed to achieve a moisture content near the laboratory optimum, mixed, and then compacted by mechanical methods, using vibratory compactors, multiple-wheel pneumatic-tired rollers or other appropriate compacting rollers, to a relative compaction of at least 90 percent as evaluated by ASTM D 1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved.

9.1.8. Pipe Bedding and Modulus of Soil Reaction

It is our recommendation that the new pipelines, where constructed in open excavations, be supported on 6 or more inches of granular bedding material. Granular pipe bedding should be provided to distribute vertical loads around the pipe. Bedding material and compaction requirements should be in accordance with this report or in accordance with specification and placement requirements by the pipe supplier. Pipe bedding should have a Sand Equivalent (SE) of 30 or greater, and be placed around the sides and the crown of the pipe. In addition, the pipe bedding material should extend 1 foot or more above the crown of the pipe. Bedding material and compaction requirements should be in accordance with the recommendations of this report, the project specifications, and applicable requirements of the appropriate governing agency.

The modulus of soil reaction is used to characterize the stiffness of soil backfill placed at the sides of buried flexible pipes for the purpose of evaluating deflection caused by the weight of the backfill over the pipe (Hartley and Duncan, 1987). A soil reaction modulus of 1,000 pounds per square inch (psi) may be used for an excavation depth of up to about 5 feet when backfilled with granular soil compacted to a relative compaction of 90 percent or more as evaluated by the ASTM D 1557. A soil reaction modulus of 1,300 psi may be used for trenches deeper than 5 feet.

9.1.9. Trench Backfill

Based on our subsurface evaluation, the on-site soils should be generally suitable for reuse as trench backfill provided they are free of organic material, clay lumps, debris, and rocks greater than approximately 4 inches in diameter. We recommend that trench backfill materials be in conformance with the “Greenbook” (Standard Specifications for Public Works) specifications for structure backfill. Fill should be moisture-conditioned to generally above the laboratory optimum. Trench backfill should be compacted to a relative compaction of 90 percent as evaluated by the latest edition of ASTM D 1557 except for the upper 12 inches of the backfill which should be compacted to a relative compaction of 95 percent as evaluated by the latest edition of ASTM D 1557. Lift thickness for backfill will depend on the type of compaction equipment utilized, but fill should generally be placed in lifts not exceeding 8 inches in loose thickness. Special care should be exercised to avoid damaging the pipe during compaction of the backfill.

9.2. Slope Stability

A qualitative evaluation of the stability of the existing easterly ascending slope (located approximately 200 feet from the project site) was performed during this study. Based on our review of the available geologic data, subsurface information and our observation of the slope area and the pavement conditions along Vista Del Mar, the subject slope does not show signs of global instability. The slope is densely vegetated and indications are that it has been adequately maintained. Signs of surficial instability or erosion were not visible on the slope face during our geotechnical reconnaissance of the site. The retaining wall located at

the toe of the slope was also observed to be in good condition, and did not show signs of movement or instability. We, however, recommend that NRG's maintenance history of this slope, if any, be made available to Ninyo & Moore so that further assessment regarding its stability can be made.

9.3. Seismic Design Considerations

Design of the proposed improvements should comply with design for structures located in Seismic Zone 4 in accordance with applicable jurisdictions and building codes, and the standard practices of the Structural Engineers Association of California. A soil profile factor of S_D may be utilized in the CBC (2001) seismic design. Additional CBC seismic design parameters are provided in Table 2.

Table 2 – 2001 California Building Code Seismic Recommendations

2001 CBC Seismic Design Factor	Value
Seismic Zone Factor, Z	0.4
Seismic Source Type*	B
Near Source Factor, N_a	1.2
Near Source Factor, N_v	1.5
Soil Profile Type	S_D
Seismic Coefficient, C_a	0.53
Seismic Coefficient, C_v	0.93
* Faults are designated as Type A, B or C, depending on maximum moment magnitude and slip rates (Table 16A-U of CBC, 2001).	

9.4. Structural Foundations

Relatively shallow, conventional continuous and/or isolated wall and column footings or mat foundations may be considered for the proposed structures. A mat foundation will be particularly suitable for settlement-sensitive structures. A mat foundation may also be considered for supporting the relatively heavy gas turbine/generator and HRSG units and the steam turbine/generator unit. The structural foundations should be underlain by a 3-foot-thick engineered fill mat or a gravel base course consisting of $\frac{3}{4}$ -inch gravel in accordance with "Greenbook" specifications for structure backfill. The extent of overexcavation and recompaction of foundation subgrade materials should be reevaluated by the authorized

geotechnical engineer upon demolition and removal of the existing structural elements on site. Recommendations for foundation bearing capacity, settlement and lateral earth pressures should be provided following such reevaluation.

9.5. Underground Utilities

Sufficient tolerance should be incorporated in designing underground utility lines and shut-off valves to mitigate distress resulting from seismically induced differential and/or total settlements. Flexible joints with adequate yield should be used, wherever possible, in order to maintain the serviceability of these utilities during the design seismic event.

9.6. Corrosion

Laboratory testing was performed to evaluate soil pH, electrical resistivity, water-soluble chloride content, and water-soluble sulfate content of near-surface soil samples. The soil pH and electrical resistivity tests were performed in general accordance with California Test Method 643. Chloride content tests were performed in general accordance with California Test Method 422. Sulfate content tests were performed in general accordance with California Test Method 417. The laboratory test results are presented in Appendix B.

The results of the corrosivity testing indicated electrical resistivity ranging from approximately 3,820 to 4,090 ohm-cm, soil pH of 7.3 to 7.4, chloride contents varying between 80 and 190 parts per million (ppm) and sulfate content ranging from approximately 0.020 to 0.021 percent (i.e., 200 to 210 ppm). Based on the Caltrans (2003) criteria, the project site would not be classified as corrosive, which is defined as a site having soils with more than 500 ppm of chlorides, more than 0.2 percent sulfates or a pH less than 5.5.

9.7. Concrete Design

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. The soil samples tested in this evaluation indicated water-soluble sulfate contents ranging from about 0.020 to

0.021 percent by weight (i.e., 200 to 210 ppm). Based on the CBC criteria, the potential for sulfate attack is negligible for water-soluble sulfate contents in soils ranging from 0.00 percent to 0.10 percent by weight (0 ppm to 1,000 ppm), indicating that the on-soils may be considered to have a negligible potential for sulfate attack. Therefore, based on CBC criteria, Type II cement may be used for concrete construction. The concrete should have a water-cement ratio no higher than 0.45 by weight for normal weight aggregate concrete and a 28-day compressive strength of 4,000 pounds per square inch (psi) or more.

10. LIMITATIONS

The limited field evaluation, laboratory testing, and preliminary geotechnical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for planning purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports

prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

11. SELECTED REFERENCES

- American Concrete Institute, (ACI), 1997, ACI Manual of Concrete Practice.
- Bartlett, S. F. and Youd, T. L., 1995, Revised 1999, Empirical Prediction of Liquefaction-Induced Lateral Spread, J. of Geotechnical Engineering, ASCE, Vol. 121, No. 4, April, 316-329.
- Blake, T.F., 2001a, FRISKSP (Version 4.00) A Computer Program for the Probabilistic Estimation of Peak Acceleration and Uniform Hazard Spectra Using 3-D Faults as Earthquake Sources.
- Blake, T.F., 2001b, LIQUEFY2 (Version 1.50), A Computer Program for the Empirical Prediction of Earthquake-Induced Liquefaction Potential.
- Boore, D.M., Joyner, W.B., and Fumal, T.E., 1997, Equations for Estimating Horizontal Response Spectra and Peak Acceleration from Western North American Earthquakes: A Summary of Recent Work, Seismological Research Letters, Vol. 68, No. 1, pp. 128-153.
- California Building Standards Commission (CBSC), 2001, California Building Code (CBC), Title 24, Part 2, Volumes 1 and 2.
- California Department of Conservation, Division of Mines and Geology, 1997, Guidelines for Evaluating and Mitigating Seismic Hazards in California, CDMG Special Publication 117.
- California Department of Conservation, Division of Mines and Geology, State of California, 1999, Seismic Hazard Zones Official Map, Venice Quadrangle, 7.5-Minute Series: Scale 1:24,000, Open-File Report 98-27, dated March 25.
- California Department of Transportation (Caltrans), 2003, Corrosion Guidelines, Version 1.0, Division of Engineering Services, Materials Engineering and Testing Services, Corrosion Technology Branch: dated September.
- California Geological Survey (CGS), 2004, Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings: Note 48, dated January 1.
- Cao, T., Bryant, W. A., Rowshandel, B., Branum, D., and Willis, C. J., 2003, The Revised 2002 California Probabilistic Seismic Hazards Maps: California Geological Survey, dated June.
- City of Los Angeles, 1996, Safety Element of the Los Angeles City General Plan, adopted November 26.
- Hart, E.W., and Bryant, W.A., 1997, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps: California Department of Conservation, Division of Mines and Geology, Special Publication 42, with Supplements 1 and 2 added in 1999.

- Hartley, J.D., and Duncan, J.M., 1987, E' and Its Variation with Depth: American Society of Civil Engineers (ASCE), Journal of Transportation Engineering, Vol. 113, No. 5, dated September.
- International Conference of Building Officials (ICBO), 1997, Uniform Building Code (UBC).
- Ishihara, K., 1995, Effects of At-Depth Liquefaction on Embedded Foundations During Earthquakes, Proceedings of the Tenth Asian Regional Conference on Soil Mechanics and Foundation Engineering, August 29 through September 2, Beijing, China, Vol. 2, pp. 16-25.
- Jennings, C.W., 1994, Fault Activity Map of California and Adjacent Areas: California Division of Mines and Geology, California Geologic Data Map Series, Map No. 6, Scale 1:750,000.
- Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and Southern California Districts of the Associated General Contractors of California, 2006, "Greenbook," Standard Specifications for Public Works Construction: BNI Building News, Los Angeles, California.
- Kramer, S.L., 1996, Geotechnical Earthquake Engineering, Prentice Hall.
- Ninyo & Moore, In-house Proprietary Data.
- Norris, R.M., and Webb, R.W., 1990, Geology of California, Second Edition: John Wiley & Sons.
- Peterson, M.D., Bryant, W.A., Cramer, C.H., Cao, T., Reichle, M.S., Frankel, A.D., Lienkaemper, J.J., McCrory, P.A., and Schwartz, D.P., 1996, Probabilistic Seismic Hazard Assessment for the State of California: California Department of Conservation, Division of Mines and Geology Open File Report 96-08.
- Seed, H.B., and Idriss, I.M., 1982, Ground Motions and Soil Liquefaction During Earthquakes, Earthquake Engineering Research Institute Monograph, Oakland, California.
- Tokimatsu, K., and Seed, H.B., 1987, Evaluation of Settlements in Sands Due to Earthquake Shaking, Journal of the Geotechnical Engineering Division, ASCE, Vol. 113, No. 8, pp. 861-878.
- TopoZone.com, 2005, The TopoZone, Maps a la carte, Inc., Internet web-site address: www.topozone.com, Accessed on August 22.
- United States Geological Survey, 1964 (Photorevised 1981), Venice, California Quadrangle Map, 7.5 Minute Series: Scale 1:24,000.
- Youd, T.L., and Idriss, I.M. (Editors), 1997, Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Salt Lake City, Utah, January 5 through 6, 1996, NCEER Technical Report NCEER-97-0022, Buffalo, New York.

Youd, T.L., Hanse, C.M., and Bartlett, S.F., 2002, Revised MLR Equations for Predicting Lateral Spread Displacement, Journal of Geotechnical and Geoenvironmental Engineering, Volume 128, Number 12, pp. 1007-1017, dated December.

AERIAL PHOTOGRAPHS				
Source	Scale	Date	Flight	Numbers
USDA	1:20,000	11-19-53	AXJ-14K	73 & 74



REFERENCE: 2007 THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

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SITE LOCATION MAP

FIGURE

PROJECT NO.

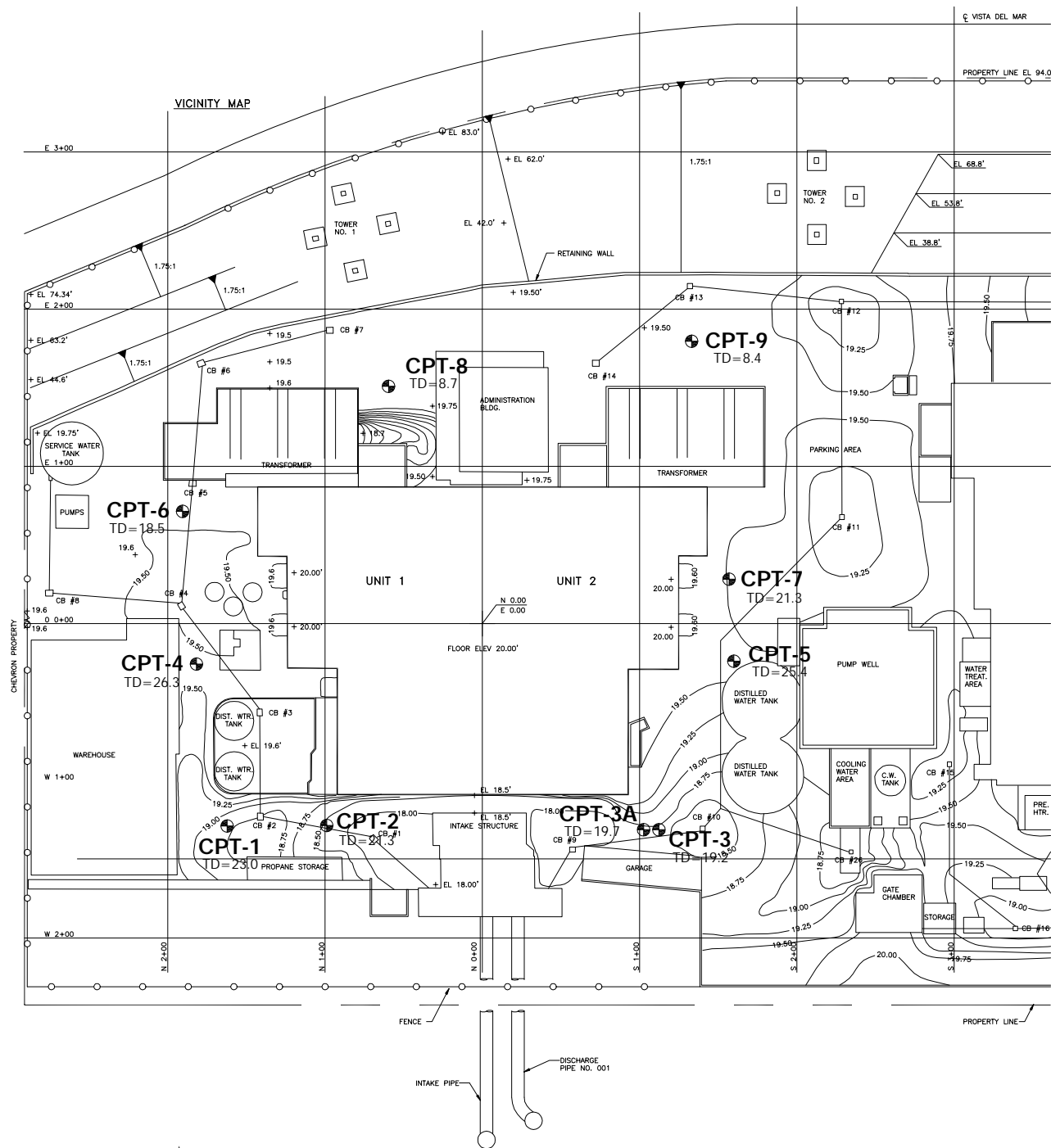
DATE

NRG EL SEGUNDO POWER REDEVELOPMENT PROJECT
EL SEGUNDO, CALIFORNIA

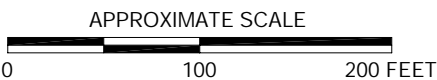
1

206954001

11/06



LEGEND	
CPT-9	APPROXIMATE LOCATION OF
TD=8.4	CONE PENETRATION TEST
	TD=TOTAL DEPTH IN FEET



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

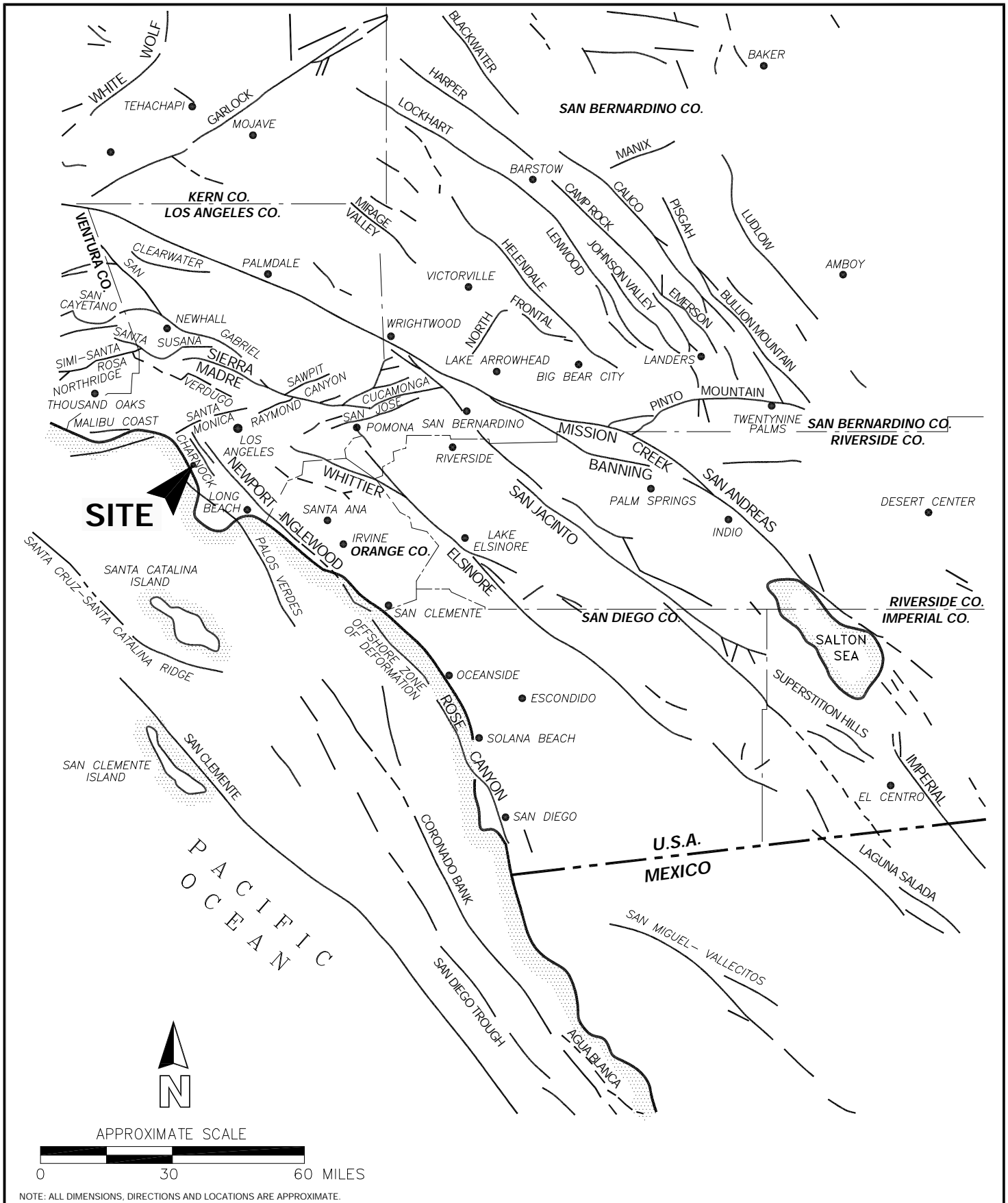
CPT LOCATION MAP

FIGURE

PROJECT NO.	DATE
206954001	11/06

NRG EL SEGUNDO POWER REDEVELOPMENT PROJECT
EL SEGUNDO, CALIFORNIA

2



Ninyo & Moore

FAULT LOCATION MAP

FIGURE

PROJECT NO.

DATE

NRG EL SEGUNDO POWER REDEVELOPMENT PROJECT
EL SEGUNDO, CALIFORNIA

206594001

11/06

3

APPENDIX A

CPT SOUNDING LOGS

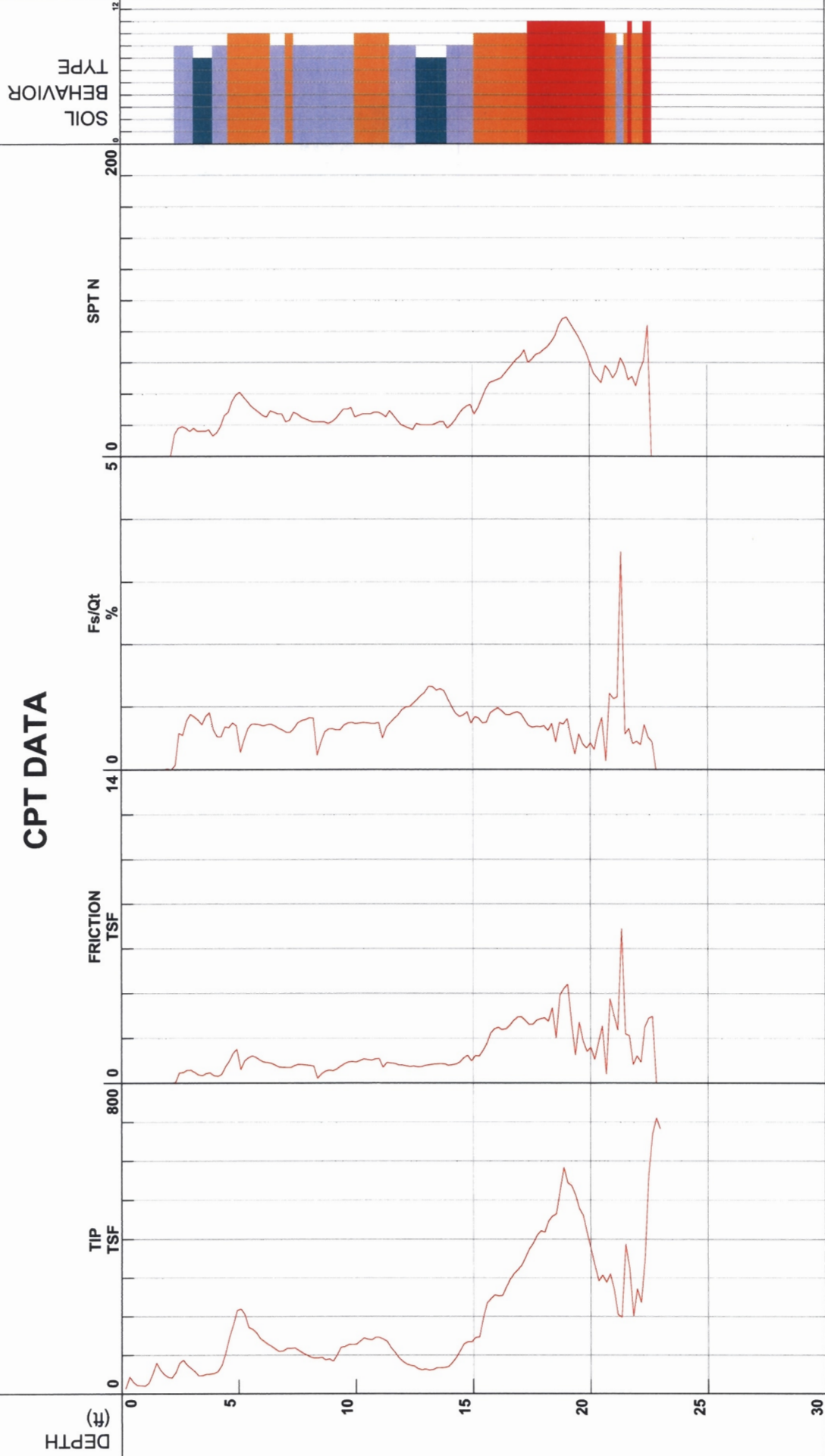


Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

Operator
Cone Number
Date and Time

Filename
GPS
Maximum Depth



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Depth Increment



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-01

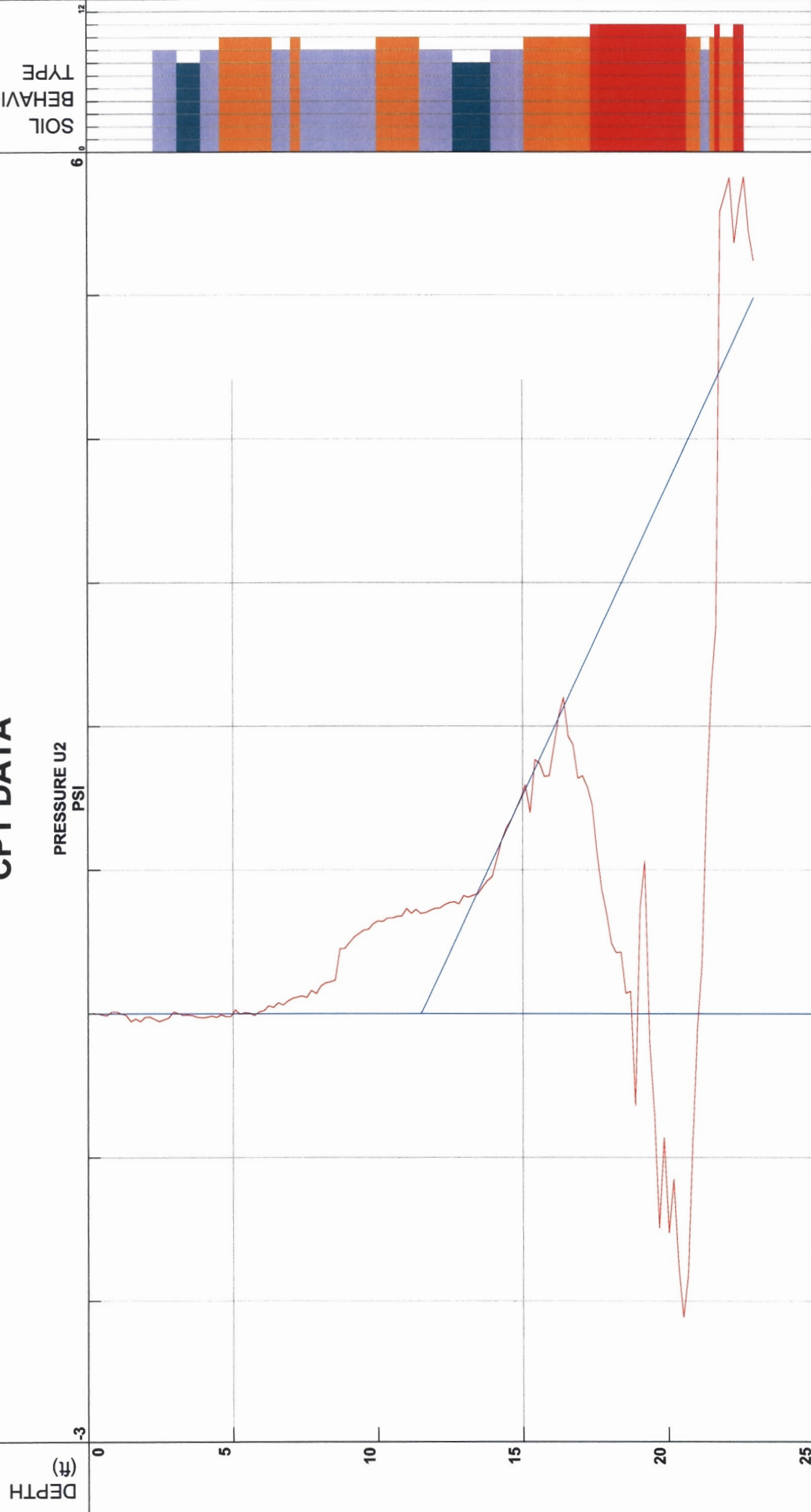
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/11/2006 3:58:10 PM

Filename
GPS
Maximum Depth
22.97 ft

SDF(484).cpt

CPT DATA



*Soil behavior type and SPT based on data from UBC-1983

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(484).cpt
CPT Date: 10/11/2006 3:58:10 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-01
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	44.0	70.5	70.4	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	14	9	55	48	-	16
0.49	30.5	48.9	54.1	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	10	6	43	48	-	16
0.66	22.2	35.6	43.7	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	7	4	33	48	-	16
0.82	21.7	34.7	43.0	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	7	4	32	47	-	16
0.98	20.5	32.9	41.6	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	7	4	30	46	-	16
1.15	28.1	45.1	51.2	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	9	6	41	47	-	16
1.31	52.0	83.4	83.4	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	17	10	61	48	-	16
1.48	80.5	129.1	129.1	0.1	-0.1	0.1	clean SAND to silty SAND	125	5.0	26	16	75	48	-	16
1.64	62.5	100.2	100.2	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	20	12	67	48	-	16
1.80	50.7	81.4	81.4	0.1	-0.1	0.1	clean SAND to silty SAND	125	5.0	16	10	60	48	-	16
1.97	43.5	69.8	69.9	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	14	9	55	47	-	16
2.13	41.0	65.8	67.1	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	13	8	53	46	-	16
2.30	55.8	89.4	89.4	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	18	11	63	47	-	16
2.46	80.1	128.5	131.6	0.5	-0.1	0.6	clean SAND to silty SAND	125	5.0	26	16	75	48	-	16
2.62	87.5	140.3	140.3	0.5	0.0	0.5	clean SAND to silty SAND	125	5.0	28	17	78	48	-	16
2.79	74.6	119.6	130.8	0.6	0.0	0.8	clean SAND to silty SAND	125	5.0	24	15	73	47	-	16
2.95	66.3	106.3	122.3	0.6	0.0	0.9	clean SAND to silty SAND	125	5.0	21	13	69	47	-	16
3.12	58.0	93.0	109.8	0.5	0.0	0.8	clean SAND to silty SAND	125	5.0	19	12	65	46	-	16
3.28	47.1	75.6	93.6	0.4	0.0	0.8	clean SAND to silty SAND	125	5.0	15	9	58	45	-	16
3.45	47.7	76.5	92.4	0.3	0.0	0.7	clean SAND to silty SAND	125	5.0	15	10	58	45	-	16
3.61	50.9	81.7	100.2	0.4	0.0	0.9	clean SAND to silty SAND	125	5.0	16	10	60	45	-	16
3.77	51.4	82.4	102.4	0.5	0.0	0.9	clean SAND to silty SAND	125	5.0	16	10	61	44	-	16
3.94	53.3	85.5	97.9	0.3	0.0	0.6	clean SAND to silty SAND	125	5.0	17	11	62	44	-	16
4.10	58.2	93.3	101.5	0.3	0.0	0.5	clean SAND to silty SAND	125	5.0	19	12	65	45	-	16
4.27	74.3	119.1	122.2	0.4	0.0	0.5	clean SAND to silty SAND	125	5.0	24	15	73	46	-	16
4.43	106.0	170.0	170.0	0.7	0.0	0.7	clean SAND to silty SAND	125	5.0	34	21	85	47	-	16
4.59	147.1	236.0	236.0	1.0	0.0	0.7	clean SAND to silty SAND	125	5.0	47	29	95	48	-	16
4.76	179.2	287.5	287.5	1.3	0.0	0.7	clean SAND to silty SAND	125	5.0	57	36	95	48	-	16
4.92	215.8	346.1	346.1	1.5	0.0	0.7	clean SAND to silty SAND	125	5.0	69	43	95	48	-	16
5.09	219.5	352.1	352.1	0.6	0.0	0.3	grvly SAND to dense SAND	130	6.0	59	37	95	48	-	16
5.25	205.6	329.7	329.7	1.0	0.0	0.5	grvly SAND to dense SAND	130	6.0	55	34	95	48	-	16
5.41	171.6	275.2	275.2	1.1	0.0	0.7	clean SAND to silty SAND	125	5.0	55	34	95	48	-	16
5.58	167.3	268.3	268.3	1.2	0.0	0.7	clean SAND to silty SAND	125	5.0	54	33	95	48	-	16
5.74	158.4	254.1	254.1	1.1	0.0	0.7	clean SAND to silty SAND	125	5.0	51	32	95	48	-	16
5.91	143.4	229.2	229.2	1.0	0.0	0.7	clean SAND to silty SAND	125	5.0	46	29	94	47	-	16
6.07	135.7	214.1	214.1	0.9	0.0	0.7	clean SAND to silty SAND	125	5.0	43	27	92	47	-	16
6.23	128.5	200.0	200.0	0.9	0.1	0.7	clean SAND to silty SAND	125	5.0	40	26	90	46	-	16
6.40	122.5	188.1	188.1	0.9	0.0	0.7	clean SAND to silty SAND	125	5.0	38	24	88	46	-	16
6.56	115.2	174.8	174.8	0.8	0.1	0.7	clean SAND to silty SAND	125	5.0	35	23	85	46	-	16
6.73	109.4	163.9	163.9	0.7	0.1	0.7	clean SAND to silty SAND	125	5.0	33	22	83	45	-	16
6.89	111.6	165.2	165.2	0.7	0.1	0.6	clean SAND to silty SAND	125	5.0	33	22	84	45	-	16
7.05	117.7	172.2	172.2	0.7	0.1	0.6	clean SAND to silty SAND	125	5.0	34	24	85	45	-	16
7.22	117.2	169.4	169.4	0.7	0.1	0.6	clean SAND to silty SAND	125	5.0	34	23	84	45	-	16
7.38	118.9	170.0	170.0	0.8	0.1	0.7	clean SAND to silty SAND	125	5.0	34	24	85	45	-	16
7.55	112.5	159.1	162.7	0.8	0.1	0.8	clean SAND to silty SAND	125	5.0	32	22	82	45	-	16
7.71	106.0	148.3	155.3	0.8	0.2	0.8	clean SAND to silty SAND	125	5.0	30	21	80	44	-	16
7.87	100.7	139.5	148.6	0.8	0.1	0.8	clean SAND to silty SAND	125	5.0	28	20	78	44	-	16
8.04	96.0	131.5	142.6	0.8	0.2	0.8	clean SAND to silty SAND	125	5.0	26	19	76	44	-	16
8.20	92.6	125.6	137.5	0.8	0.2	0.8	clean SAND to silty SAND	125	5.0	25	19	75	44	-	16
8.37	92.6	124.3	124.3	0.2	0.2	0.2	clean SAND to silty SAND	125	5.0	25	19	74	43	-	16
8.53	94.7	126.0	126.0	0.4	0.2	0.4	clean SAND to silty SAND	125	5.0	25	19	75	43	-	16
8.69	88.2	116.3	122.8	0.5	0.5	0.6	clean SAND to silty SAND	125	5.0	23	18	72	43	-	16
8.86	90.1	117.6	125.4	0.6	0.5	0.7	clean SAND to silty SAND	125	5.0	24	18	72	43	-	16
9.02	84.9	109.8	119.0	0.6	0.5	0.7	clean SAND to silty SAND	125	5.0	22	17	70	43	-	16
9.19	100.7	129.1	134.3	0.6	0.5	0.6	clean SAND to silty SAND	125	5.0	26	20	75	43	-	16
9.35	120.3	152.9	152.9	0.8	0.6	0.6	clean SAND to silty SAND	125	5.0	31	24	81	44	-	16
9.51	121.9	153.5	156.7	0.9	0.6	0.7	clean SAND to silty SAND	125	5.0	31	24	81	44	-	16
9.68	127.6	159.3	162.6	0.9	0.6	0.7	clean SAND to silty SAND	125	5.0	32	26	82	44	-	16
9.84	127.8	158.3	162.1	1.0	0.6	0.8	clean SAND to silty SAND	125	5.0	32	26	82	44	-	16
10.01	128.1	157.4	160.6	0.9	0.6	0.7	clean SAND to silty SAND	125	5.0	31	26	82	44	-	16
10.17	136.2	165.9	167.7	1.0	0.6	0.7	clean SAND to silty SAND	125	5.0	33	27	84	44	-	16
10.34	144.2	174.3	174.7	1.1	0.7	0.8	clean SAND to silty SAND	125	5.0	35	29	85	45	-	16
10.50	140.8	168.8	170.2	1.0	0.7	0.7	clean SAND to silty SAND	125	5.0	34	28	84	44	-	16
10.66	139.5	166.0	167.5	1.0	0.7	0.7	clean SAND to silty SAND	125	5.0	33	28	84	44	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(484).cpt
CPT Date: 10/11/2006 3:58:10 PM
GW During Test: 1.5 ft

Page: 2
Sounding ID: CPT-01
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
10.83	146.1	172.5	172.5	1.1	0.7	0.7	clean SAND to silty SAND	125	5.0	35	29	85	44	-	16
10.99	145.9	171.0	172.1	1.1	0.7	0.8	clean SAND to silty SAND	125	5.0	34	29	85	44	-	16
11.16	141.3	164.3	164.3	0.7	0.7	0.5	clean SAND to silty SAND	125	5.0	33	28	83	44	-	16
11.32	135.4	156.4	157.6	0.9	0.7	0.7	clean SAND to silty SAND	125	5.0	31	27	82	44	-	16
11.48	119.5	137.0	144.7	0.9	0.7	0.7	clean SAND to silty SAND	125	5.0	27	24	77	43	-	16
11.65	107.6	122.9	135.0	0.9	0.7	0.8	clean SAND to silty SAND	125	5.0	25	22	74	43	-	16
11.81	93.9	106.9	122.8	0.8	0.7	0.9	clean SAND to silty SAND	125	5.0	21	19	69	42	-	16
11.98	84.3	95.7	115.3	0.8	0.7	1.0	clean SAND to silty SAND	125	5.0	19	17	66	41	-	16
12.14	77.4	87.5	109.5	0.8	0.7	1.0	clean SAND to silty SAND	125	5.0	18	15	63	41	-	16
12.30	73.7	83.0	105.8	0.7	0.8	1.0	clean SAND to silty SAND	125	5.0	17	15	61	40	-	16
12.47	72.0	80.9	105.5	0.8	0.8	1.1	clean SAND to silty SAND	125	5.0	16	14	60	40	-	16
12.63	65.1	72.9	100.3	0.7	0.8	1.1	silty SAND to sandy SILT	120	4.0	18	16	57	40	-	16
12.80	61.9	69.1	99.0	0.7	0.8	1.2	silty SAND to sandy SILT	120	4.0	17	15	55	39	-	16
12.96	64.3	71.5	102.4	0.8	0.8	1.2	silty SAND to sandy SILT	120	4.0	18	16	56	40	-	16
13.12	61.3	67.9	102.2	0.8	0.8	1.3	silty SAND to sandy SILT	120	4.0	17	15	54	39	-	16
13.29	63.1	69.7	103.6	0.8	0.8	1.3	silty SAND to sandy SILT	120	4.0	17	16	55	39	-	16
13.45	67.5	74.4	105.9	0.9	0.8	1.3	silty SAND to sandy SILT	120	4.0	19	17	57	40	-	16
13.62	67.4	74.0	106.2	0.9	0.9	1.3	silty SAND to sandy SILT	120	4.0	19	17	57	40	-	16
13.78	68.1	74.5	105.7	0.9	0.9	1.3	silty SAND to sandy SILT	120	4.0	19	17	57	40	-	16
13.94	70.7	77.2	104.3	0.8	1.0	1.1	clean SAND to silty SAND	125	5.0	15	14	58	40	-	16
14.11	81.8	89.0	111.0	0.8	1.1	1.0	clean SAND to silty SAND	125	5.0	18	16	63	41	-	16
14.27	94.2	102.2	119.6	0.8	1.2	0.9	clean SAND to silty SAND	125	5.0	20	19	68	41	-	16
14.44	112.0	121.1	134.3	0.9	1.3	0.9	clean SAND to silty SAND	125	5.0	24	22	73	42	-	16
14.60	129.2	139.2	150.7	1.1	1.3	0.9	clean SAND to silty SAND	125	5.0	28	26	78	43	-	16
14.76	134.4	144.4	156.8	1.2	1.4	0.9	clean SAND to silty SAND	125	5.0	29	27	79	43	-	16
14.93	134.3	143.9	150.2	1.0	1.5	0.7	clean SAND to silty SAND	125	5.0	29	27	79	43	-	16
15.09	145.3	155.2	163.2	1.2	1.6	0.8	clean SAND to silty SAND	125	5.0	31	29	82	43	-	16
15.26	146.9	156.3	163.5	1.2	1.4	0.8	clean SAND to silty SAND	125	5.0	31	29	82	43	-	16
15.42	196.2	208.2	208.2	1.5	1.8	0.7	clean SAND to silty SAND	125	5.0	42	39	91	45	-	16
15.58	235.4	249.1	249.1	1.8	1.7	0.8	clean SAND to silty SAND	125	5.0	50	47	95	46	-	16
15.75	245.6	259.0	259.0	2.2	1.6	0.9	clean SAND to silty SAND	125	5.0	52	49	95	46	-	16
15.91	255.8	269.0	269.0	2.4	1.7	1.0	clean SAND to silty SAND	125	5.0	54	51	95	46	-	16
16.08	252.9	265.1	265.1	2.5	1.9	1.0	clean SAND to silty SAND	125	5.0	53	51	95	46	-	16
16.24	253.9	265.4	265.4	2.4	2.1	0.9	clean SAND to silty SAND	125	5.0	53	51	95	46	-	16
16.40	276.2	287.9	287.9	2.4	2.2	0.9	clean SAND to silty SAND	125	5.0	58	55	95	46	-	16
16.57	296.0	307.6	307.6	2.6	1.9	0.9	clean SAND to silty SAND	125	5.0	62	59	95	46	-	16
16.73	310.6	321.8	321.8	2.8	1.9	0.9	clean SAND to silty SAND	125	5.0	64	62	95	47	-	16
16.90	320.9	331.5	331.5	2.9	1.6	0.9	clean SAND to silty SAND	125	5.0	66	64	95	47	-	16
17.06	332.3	342.3	342.3	3.0	1.7	0.9	clean SAND to silty SAND	125	5.0	68	66	95	47	-	16
17.23	354.1	363.7	363.7	2.8	1.6	0.8	clean SAND to silty SAND	125	5.0	73	71	95	47	-	16
17.39	374.9	384.0	384.0	2.6	1.5	0.7	clean SAND to silty SAND	125	5.0	77	75	95	47	-	16
17.55	389.7	398.0	398.0	2.6	1.1	0.7	clean SAND to silty SAND	125	5.0	80	78	95	47	-	16
17.72	409.5	417.0	417.0	2.8	0.9	0.7	clean SAND to silty SAND	125	5.0	83	82	95	48	-	16
17.88	421.4	427.9	427.9	2.9	0.7	0.7	clean SAND to silty SAND	125	5.0	86	84	95	48	-	16
18.05	417.7	423.0	423.0	2.9	0.5	0.7	clean SAND to silty SAND	125	5.0	85	84	95	48	-	16
18.21	446.2	450.6	450.6	2.8	0.4	0.6	grvly SAND to dense SAND	130	6.0	75	74	95	48	-	16
18.37	458.6	461.8	461.8	3.4	0.4	0.7	clean SAND to silty SAND	125	5.0	92	92	95	48	-	16
18.54	464.5	466.4	466.4	2.0	0.1	0.4	grvly SAND to dense SAND	130	6.0	78	77	95	48	-	16
18.70	524.7	525.3	525.3	3.9	0.2	0.8	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16
18.87	583.3	582.4	582.4	4.2	-0.6	0.7	grvly SAND to dense SAND	130	6.0	97	97	95	48	-	16
19.03	543.6	541.2	541.2	4.4	0.7	0.8	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16
19.19	536.8	533.0	533.0	2.7	1.1	0.5	grvly SAND to dense SAND	130	6.0	89	89	95	48	-	16
19.36	513.8	508.6	508.6	1.3	-0.2	0.2	grvly SAND to dense SAND	130	6.0	85	86	95	48	-	16
19.52	478.4	472.2	472.2	2.7	-0.7	0.6	grvly SAND to dense SAND	130	6.0	79	80	95	48	-	16
19.69	461.0	453.8	453.8	1.9	-1.5	0.4	grvly SAND to dense SAND	130	6.0	76	77	95	48	-	16
19.85	415.9	408.2	408.2	1.4	-0.9	0.3	grvly SAND to dense SAND	130	6.0	68	69	95	47	-	16
20.01	375.9	367.9	367.9	1.6	-1.5	0.4	grvly SAND to dense SAND	130	6.0	61	63	95	47	-	16
20.18	332.4	324.5	324.5	1.1	-1.2	0.3	grvly SAND to dense SAND	130	6.0	54	55	95	46	-	16
20.34	291.8	284.1	284.1	1.8	-1.8	0.6	clean SAND to silty SAND	125	5.0	57	58	95	46	-	16
20.51	307.1	298.2	298.2	2.5	-2.1	0.8	clean SAND to silty SAND	125	5.0	60	61	95	46	-	16
20.67	288.6	279.4	279.4	0.4	-1.8	0.1	grvly SAND to dense SAND	130	6.0	47	48	95	46	-	16
20.83	310.6	299.9	299.2	3.8	-0.9	1.2	clean SAND to silty SAND	125	5.0	60	62	95	46	-	16
21.00	268.6	258.7	260.9	3.0	-0.1	1.1	clean SAND to silty SAND	125	5.0	52	54	95	45	-	16
21.16	205.1	197.1	210.4	2.4	0.4	1.2	clean SAND to silty SAND	125	5.0	39	41	89	44	-	16
21.33	198.4	190.1	287.7	6.9	1.5	3.5	stiff SAND to clay SAND	115	1.0	100	100	-	-	12.3	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

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Project ID: Ninyo & Moore
Data File: SDF(484).cpt
CPT Date: 10/11/2006 3:58:10 PM
GW During Test: 1.5 ft

Page: 3
Sounding ID: CPT-01
Project No: 206954001
Cone/Rig: DSA0408

.	.	*	*	.	.	*	.	*	*	.	*
Depth	qc	qc1n	qlncs	Slv	pore	Frct	Material	Unit	Qc	SPT	SPT	Rel	Ftn	Und	Nk
ft	PS	PS	PS	Stss	prss	Rato	Behavior	Wght	to	R-N1	R-N	Den	Ang	Shr	-
	tsf	-	-	tsf	(psi)	%	Description	pcf	N	60%	60%	%	deg	tsf	-
21.49	388.2	371.3	371.3	2.2	2.3	0.6	grvly SAND to dense SAND	130	6.0	62	65	95	47	-	16
21.65	325.2	310.2	310.2	2.1	2.7	0.7	clean SAND to silty SAND	125	5.0	62	65	95	46	-	16
21.82	202.0	192.2	192.2	0.8	5.6	0.4	clean SAND to silty SAND	125	5.0	38	40	89	44	-	16
21.98	272.0	258.2	258.2	1.2	5.7	0.5	clean SAND to silty SAND	125	5.0	52	54	95	45	-	16
22.15	236.6	224.1	224.1	0.9	5.8	0.4	clean SAND to silty SAND	125	5.0	45	47	94	45	-	16
22.31	347.6	328.3	328.3	2.5	5.4	0.7	clean SAND to silty SAND	125	5.0	66	70	95	46	-	16
22.47	564.4	531.8	531.8	2.9	5.6	0.5	grvly SAND to dense SAND	130	6.0	89	94	95	48	-	16
22.64	669.4	629.1	629.1	3.0	5.8	0.4	grvly SAND to dense SAND	130	6.0	100	100	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

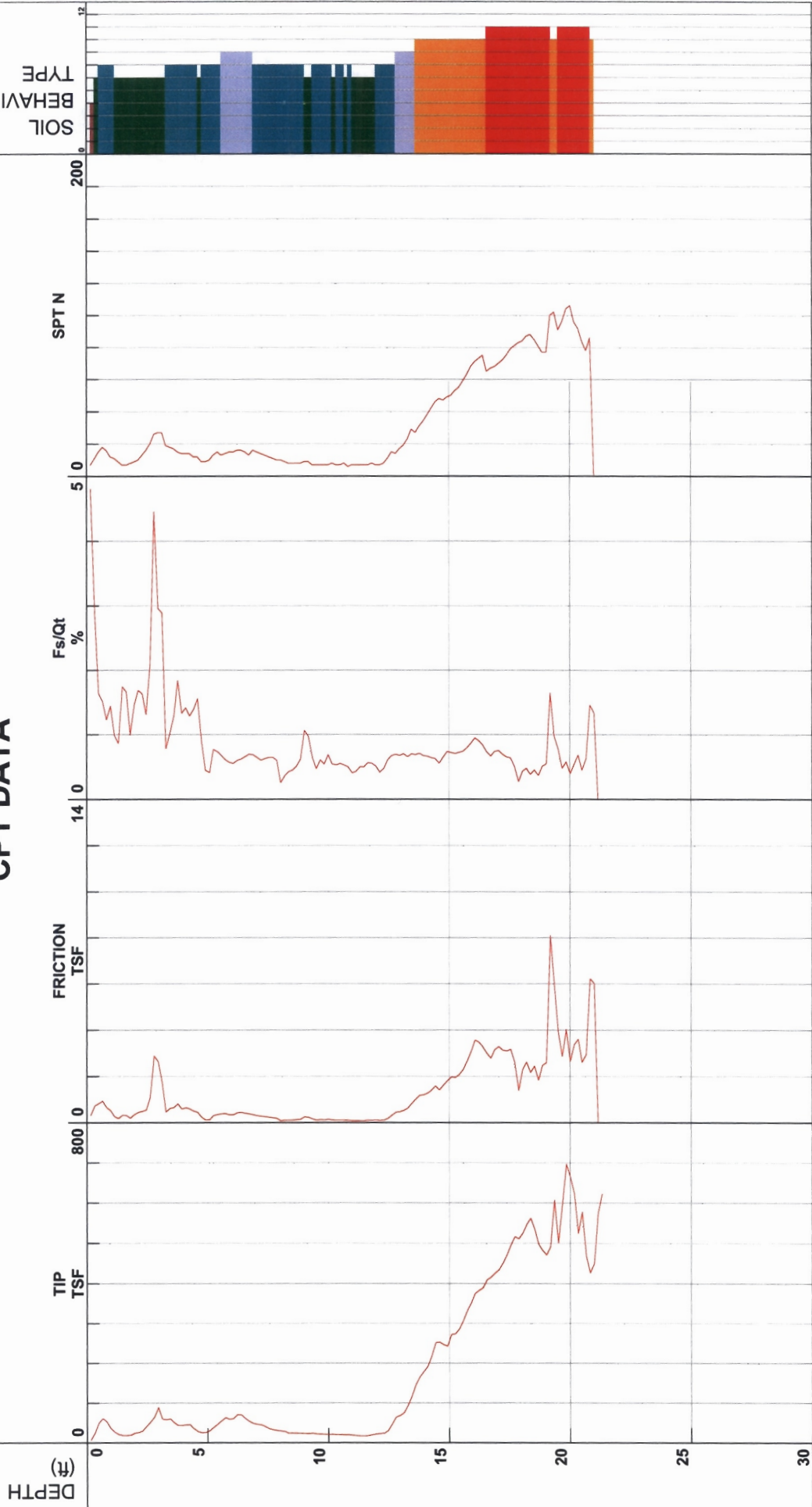
Holguin, Fahan & Associates, Inc.



Ninyo & Moore

Location	El Segundo NRG Plant	Operator	ML-CW	Filename	SDF(486).cpt
Job Number	206954001	Cone Number	DSA0408	GPS	
Hole Number	CPT-02	Date and Time	10/11/2006 5:04:18 PM	Maximum Depth	21.33 ft
Water Table Depth					

CPT DATA



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

*Soil behavior type and SPT based on data from UBC-1983



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-02

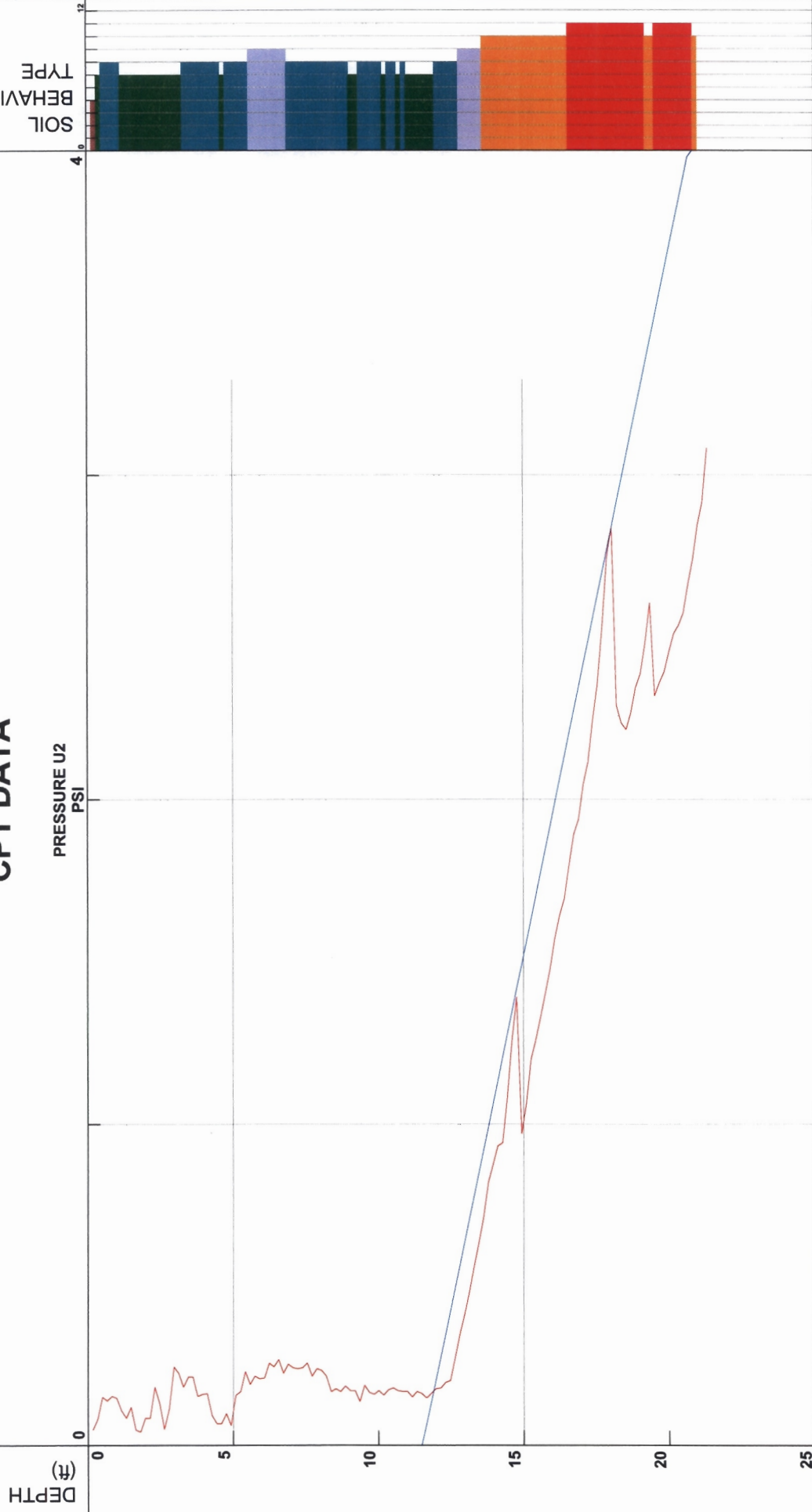
Operator
Cone Number
Date and Time
11:50 ft

ML-CW
DSA0408
10/11/2006 5:04:18 PM

Filename
GPS
Maximum Depth

SDF(486).cpt
21.33 ft

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Depth Increment

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(486).cpt
CPT Date: 10/11/2006 5:04:18 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-02
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	qncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	25.4	40.7	114.2	0.7	0.1	2.9	clay	SILT	115	2.0	20	13	-	1.7	15
0.49	50.5	81.0	121.1	0.8	0.2	1.6	silty	SAND	120	4.0	20	13	60	48	-
0.66	61.5	98.7	133.0	0.9	0.1	1.5	silty	SAND	120	4.0	25	15	67	48	-
0.82	53.5	85.7	113.9	0.7	0.2	1.2	clean	SAND	125	5.0	17	11	62	48	-
0.98	36.6	58.7	96.7	0.5	0.1	1.4	silty	SAND	120	4.0	15	9	49	48	-
1.15	26.9	43.2	72.3	0.3	0.1	1.0	silty	SAND	120	4.0	11	7	39	47	-
1.31	21.3	34.1	62.3	0.2	0.1	0.9	silty	SAND	120	4.0	9	5	32	45	-
1.48	18.6	29.8	79.1	0.3	0.1	1.8	silty	SAND	120	4.0	7	5	27	44	-
1.64	18.7	30.0	77.5	0.3	0.0	1.7	silty	SAND	120	4.0	7	5	27	44	-
1.80	19.5	31.2	63.4	0.2	0.0	1.0	silty	SAND	120	4.0	8	5	29	44	-
1.97	24.4	39.2	81.2	0.4	0.1	1.5	silty	SAND	120	4.0	10	6	36	44	-
2.13	26.4	42.4	89.2	0.4	0.1	1.7	silty	SAND	120	4.0	11	7	39	44	-
2.30	30.2	48.5	93.2	0.5	0.2	1.6	silty	SAND	120	4.0	12	8	43	44	-
2.46	41.3	66.3	99.6	0.5	0.1	1.3	silty	SAND	120	4.0	17	10	53	46	-
2.62	52.3	83.9	136.8	1.1	0.1	2.1	silty	SAND	120	4.0	21	13	61	46	-
2.79	64.7	103.7	227.3	2.9	0.1	4.5	very stiff	fine SOIL	120	2.0	52	32	68	47	-
2.95	89.6	143.7	220.6	2.6	0.2	3.0	silty	SAND	120	4.0	36	22	79	48	-
3.12	60.4	96.8	172.6	1.7	0.2	2.9	silty	SAND	120	4.0	24	15	66	46	-
3.28	58.5	93.9	109.0	0.5	0.2	0.8	clean	SAND	125	5.0	19	12	65	46	-
3.45	60.7	97.3	118.4	0.6	0.2	1.0	clean	SAND	125	5.0	19	12	66	46	-
3.61	51.4	82.4	112.5	0.7	0.2	1.3	silty	SAND	120	4.0	21	13	61	45	-
3.77	44.1	70.8	118.1	0.8	0.2	1.9	silty	SAND	120	4.0	18	11	56	44	-
3.94	44.1	70.8	104.1	0.6	0.2	1.3	silty	SAND	120	4.0	18	11	56	44	-
4.10	45.7	73.4	108.6	0.6	0.2	1.4	silty	SAND	120	4.0	18	11	57	44	-
4.27	46.0	73.8	105.5	0.6	0.1	1.3	silty	SAND	120	4.0	18	12	57	44	-
4.43	35.8	57.3	94.6	0.5	0.1	1.4	silty	SAND	120	4.0	14	9	49	42	-
4.59	28.7	46.1	89.7	0.4	0.1	1.6	silty	SAND	120	4.0	12	7	41	41	-
4.76	25.6	41.1	68.7	0.2	0.1	0.9	silty	SAND	120	4.0	10	6	38	40	-
4.92	26.4	42.4	57.8	0.1	0.1	0.5	clean	SAND	125	5.0	8	5	39	40	-
5.09	30.5	48.9	61.9	0.1	0.2	0.4	clean	SAND	125	5.0	10	6	43	40	-
5.25	39.4	63.2	82.8	0.3	0.2	0.8	clean	SAND	125	5.0	13	8	52	42	-
5.41	47.6	76.3	92.9	0.4	0.2	0.7	clean	SAND	125	5.0	15	10	58	42	-
5.58	56.3	90.4	103.3	0.4	0.2	0.7	clean	SAND	125	5.0	18	11	64	43	-
5.74	63.5	101.9	111.2	0.4	0.2	0.6	clean	SAND	125	5.0	20	13	68	44	-
5.91	59.9	96.0	105.1	0.3	0.2	0.6	clean	SAND	125	5.0	19	12	66	43	-
6.07	61.5	98.6	106.8	0.3	0.2	0.6	clean	SAND	125	5.0	20	12	67	43	-
6.23	71.4	112.9	120.0	0.4	0.3	0.6	clean	SAND	125	5.0	23	14	71	44	-
6.40	70.5	110.0	118.2	0.4	0.2	0.6	clean	SAND	125	5.0	22	14	70	44	-
6.56	61.2	94.3	106.2	0.4	0.3	0.7	clean	SAND	125	5.0	19	12	65	43	-
6.73	54.3	82.5	97.1	0.4	0.2	0.7	clean	SAND	125	5.0	17	11	61	42	-
6.89	49.3	74.0	89.7	0.3	0.3	0.7	clean	SAND	125	5.0	15	10	57	41	-
7.05	46.7	69.3	84.8	0.3	0.2	0.7	clean	SAND	125	5.0	14	9	55	41	-
7.22	45.8	67.2	81.9	0.3	0.2	0.6	clean	SAND	125	5.0	13	9	54	41	-
7.38	41.6	60.3	76.8	0.3	0.2	0.6	clean	SAND	125	5.0	12	8	50	40	-
7.55	36.2	51.9	70.6	0.2	0.3	0.7	clean	SAND	125	5.0	10	7	45	39	-
7.71	33.1	47.0	66.8	0.2	0.2	0.7	silty	SAND	120	4.0	12	8	42	39	-
7.87	31.2	43.7	63.2	0.2	0.2	0.6	silty	SAND	120	4.0	11	8	40	38	-
8.04	29.9	41.6	52.2	0.1	0.2	0.3	clean	SAND	125	5.0	8	6	38	38	-
8.20	28.4	39.1	53.2	0.1	0.2	0.4	clean	SAND	125	5.0	8	6	36	37	-
8.37	24.2	33.0	50.6	0.1	0.2	0.4	silty	SAND	120	4.0	8	6	30	36	-
8.53	24.9	33.5	51.7	0.1	0.2	0.5	silty	SAND	120	4.0	8	6	31	36	-
8.69	24.4	32.6	52.7	0.1	0.2	0.5	silty	SAND	120	4.0	8	6	30	36	-
8.86	24.2	31.9	55.2	0.1	0.2	0.6	silty	SAND	120	4.0	8	6	29	36	-
9.02	23.6	31.0	66.1	0.3	0.2	1.1	silty	SAND	120	4.0	8	6	28	36	-
9.19	23.3	30.3	63.3	0.2	0.2	1.0	silty	SAND	120	4.0	8	6	28	35	-
9.35	24.1	31.0	55.3	0.2	0.1	0.7	silty	SAND	120	4.0	8	6	28	36	-
9.51	22.5	28.7	49.1	0.1	0.2	0.5	silty	SAND	120	4.0	7	6	26	35	-
9.68	22.0	27.9	52.3	0.1	0.2	0.6	silty	SAND	120	4.0	7	6	25	35	-
9.84	21.7	27.3	50.1	0.1	0.2	0.6	silty	SAND	120	4.0	7	5	24	35	-
10.01	20.9	26.1	53.2	0.1	0.2	0.7	silty	SAND	120	4.0	7	5	23	34	-
10.17	21.4	26.4	49.6	0.1	0.2	0.6	silty	SAND	120	4.0	7	5	23	34	-
10.34	20.6	25.3	48.5	0.1	0.2	0.5	silty	SAND	120	4.0	6	5	22	34	-
10.50	20.1	24.5	48.6	0.1	0.2	0.6	silty	SAND	120	4.0	6	5	21	34	-
10.66	20.4	24.6	48.1	0.1	0.2	0.5	silty	SAND	120	4.0	6	5	21	34	-

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.

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Project ID: Ninyo & Moore
Data File: SDF(486).cpt
CPT Date: 10/11/2006 5:04:18 PM
GW During Test: 1.5 ft

Page: 2
Sounding ID: CPT-02
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qcln PS -	qncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
10.83	20.1	24.0	46.9	0.1	0.2	0.5	silty SAND to sandy SILT	120	4.0	6	5	20	34	-	16
10.99	19.1	22.8	43.7	0.1	0.2	0.4	silty SAND to sandy SILT	120	4.0	6	5	18	33	-	16
11.16	18.5	21.8	43.7	0.1	0.2	0.4	silty SAND to sandy SILT	120	4.0	5	5	17	33	-	16
11.32	17.1	20.0	44.7	0.1	0.2	0.5	silty SAND to sandy SILT	120	4.0	5	4	14	32	-	16
11.48	17.2	20.0	44.7	0.1	0.2	0.5	silty SAND to sandy SILT	120	4.0	5	4	14	32	-	16
11.65	18.1	21.0	46.9	0.1	0.1	0.6	silty SAND to sandy SILT	120	4.0	5	5	16	32	-	16
11.81	20.2	23.3	48.1	0.1	0.2	0.6	silty SAND to sandy SILT	120	4.0	6	5	19	33	-	16
11.98	22.1	25.5	48.3	0.1	0.2	0.5	silty SAND to sandy SILT	120	4.0	6	6	22	34	-	16
12.14	23.3	26.8	46.4	0.1	0.2	0.4	silty SAND to sandy SILT	120	4.0	7	6	24	34	-	16
12.30	24.2	27.7	48.7	0.1	0.2	0.5	silty SAND to sandy SILT	120	4.0	7	6	25	34	-	16
12.47	30.5	34.8	57.1	0.2	0.2	0.6	silty SAND to sandy SILT	120	4.0	9	8	32	36	-	16
12.63	46.7	53.1	72.5	0.3	0.3	0.7	clean SAND to silty SAND	125	5.0	11	9	46	38	-	16
12.80	64.9	73.5	89.6	0.5	0.4	0.7	clean SAND to silty SAND	125	5.0	15	13	57	40	-	16
12.96	69.1	78.0	93.0	0.5	0.4	0.7	clean SAND to silty SAND	125	5.0	16	14	59	40	-	16
13.12	75.6	85.0	99.6	0.5	0.5	0.7	clean SAND to silty SAND	125	5.0	17	15	62	41	-	16
13.29	94.0	105.4	115.6	0.6	0.6	0.7	clean SAND to silty SAND	125	5.0	21	19	69	42	-	16
13.45	117.2	130.9	138.2	0.8	0.6	0.7	clean SAND to silty SAND	125	5.0	26	23	76	43	-	16
13.62	146.4	163.1	163.4	1.0	0.7	0.7	clean SAND to silty SAND	125	5.0	33	29	83	44	-	16
13.78	165.6	183.8	183.8	1.2	0.8	0.7	clean SAND to silty SAND	125	5.0	37	33	87	44	-	16
13.94	178.9	197.9	197.9	1.2	0.9	0.7	clean SAND to silty SAND	125	5.0	40	36	90	45	-	16
14.11	191.7	211.4	211.4	1.3	0.9	0.7	clean SAND to silty SAND	125	5.0	42	38	92	45	-	16
14.27	217.2	238.7	238.7	1.4	0.9	0.6	clean SAND to silty SAND	125	5.0	48	43	95	46	-	16
14.44	252.0	276.0	276.0	1.6	1.1	0.6	clean SAND to silty SAND	125	5.0	55	50	95	46	-	16
14.60	253.1	276.3	276.3	1.4	1.3	0.6	clean SAND to silty SAND	125	5.0	55	51	95	46	-	16
14.76	246.8	268.6	268.6	1.6	1.4	0.7	clean SAND to silty SAND	125	5.0	54	49	95	46	-	16
14.93	242.7	263.3	263.3	1.8	1.0	0.7	clean SAND to silty SAND	125	5.0	53	49	95	46	-	16
15.09	272.1	294.2	294.2	2.0	1.1	0.7	clean SAND to silty SAND	125	5.0	59	54	95	46	-	16
15.26	273.9	295.3	295.3	1.9	1.2	0.7	clean SAND to silty SAND	125	5.0	59	55	95	46	-	16
15.42	286.0	307.3	307.3	2.1	1.3	0.7	clean SAND to silty SAND	125	5.0	61	57	95	47	-	16
15.58	307.4	329.3	329.3	2.3	1.3	0.7	clean SAND to silty SAND	125	5.0	66	61	95	47	-	16
15.75	331.6	354.1	354.1	2.6	1.4	0.8	clean SAND to silty SAND	125	5.0	71	66	95	47	-	16
15.91	352.4	375.2	375.2	3.1	1.5	0.9	clean SAND to silty SAND	125	5.0	75	70	95	47	-	16
16.08	375.2	398.2	398.2	3.6	1.6	1.0	clean SAND to silty SAND	125	5.0	80	75	95	48	-	16
16.24	383.0	405.2	405.2	3.5	1.6	0.9	clean SAND to silty SAND	125	5.0	81	77	95	48	-	16
16.40	389.5	410.8	410.8	3.3	1.7	0.8	clean SAND to silty SAND	125	5.0	82	78	95	48	-	16
16.57	409.0	430.1	430.1	3.0	1.8	0.7	clean SAND to silty SAND	125	5.0	86	82	95	48	-	16
16.73	415.7	435.8	435.8	2.8	1.9	0.7	clean SAND to silty SAND	125	5.0	87	83	95	48	-	16
16.90	426.1	445.5	445.5	3.2	1.9	0.7	clean SAND to silty SAND	125	5.0	89	85	95	48	-	16
17.06	434.3	452.6	452.6	3.3	2.0	0.8	clean SAND to silty SAND	125	5.0	91	87	95	48	-	16
17.23	450.3	467.9	467.9	3.1	2.1	0.7	clean SAND to silty SAND	125	5.0	94	90	95	48	-	16
17.39	470.0	487.0	487.0	3.1	2.2	0.7	grvly SAND to dense SAND	130	6.0	81	78	95	48	-	16
17.55	496.0	512.3	512.3	3.2	2.4	0.6	grvly SAND to dense SAND	130	6.0	85	83	95	48	-	16
17.72	516.4	531.8	531.8	2.6	2.5	0.5	grvly SAND to dense SAND	130	6.0	89	86	95	48	-	16
17.88	511.3	524.8	524.8	1.4	2.7	0.3	grvly SAND to dense SAND	130	6.0	87	85	95	48	-	16
18.05	524.8	537.0	537.0	2.3	2.8	0.4	grvly SAND to dense SAND	130	6.0	90	87	95	48	-	16
18.21	546.6	557.6	557.6	2.6	2.3	0.5	grvly SAND to dense SAND	130	6.0	93	91	95	48	-	16
18.37	562.2	571.8	571.8	2.2	2.2	0.4	grvly SAND to dense SAND	130	6.0	95	94	95	48	-	16
18.54	535.6	543.1	543.1	2.4	2.2	0.5	grvly SAND to dense SAND	130	6.0	91	89	95	48	-	16
18.70	498.1	503.6	503.6	1.8	2.3	0.4	grvly SAND to dense SAND	130	6.0	84	83	95	48	-	16
18.87	483.1	486.9	486.9	2.5	2.3	0.5	grvly SAND to dense SAND	130	6.0	81	81	95	48	-	16
19.03	471.1	473.4	473.4	2.6	2.4	0.6	grvly SAND to dense SAND	130	6.0	79	79	95	48	-	16
19.19	490.9	491.8	491.8	8.1	2.5	1.7	clean SAND to silty SAND	125	5.0	98	98	95	48	-	16
19.36	607.4	606.9	606.9	5.9	2.6	1.0	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16
19.52	501.1	499.3	499.3	3.9	2.3	0.8	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16
19.69	598.1	594.4	594.4	2.9	2.4	0.5	grvly SAND to dense SAND	130	6.0	99	100	95	48	-	16
19.85	696.9	690.6	690.6	4.0	2.4	0.6	grvly SAND to dense SAND	130	6.0	100	100	95	48	-	16
20.01	664.1	656.2	656.2	2.7	2.5	0.4	grvly SAND to dense SAND	130	6.0	100	100	95	48	-	16
20.18	623.4	614.2	614.2	3.4	2.5	0.5	grvly SAND to dense SAND	130	6.0	100	100	95	48	-	16
20.34	525.0	515.8	515.8	3.6	2.5	0.7	grvly SAND to dense SAND	130	6.0	86	87	95	48	-	16
20.51	577.9	566.2	566.2	2.6	2.6	0.5	grvly SAND to dense SAND	130	6.0	94	96	95	48	-	16
20.67	468.5	457.7	457.7	2.9	2.7	0.6	grvly SAND to dense SAND	130	6.0	76	78	95	48	-	16
20.83	427.3	416.3	416.3	6.2	2.7	1.5	clean SAND to silty SAND	125	5.0	83	85	95	47	-	16
21.00	449.4	436.7	436.7	6.0	2.8	1.3	clean SAND to silty SAND	125	5.0	87	90	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

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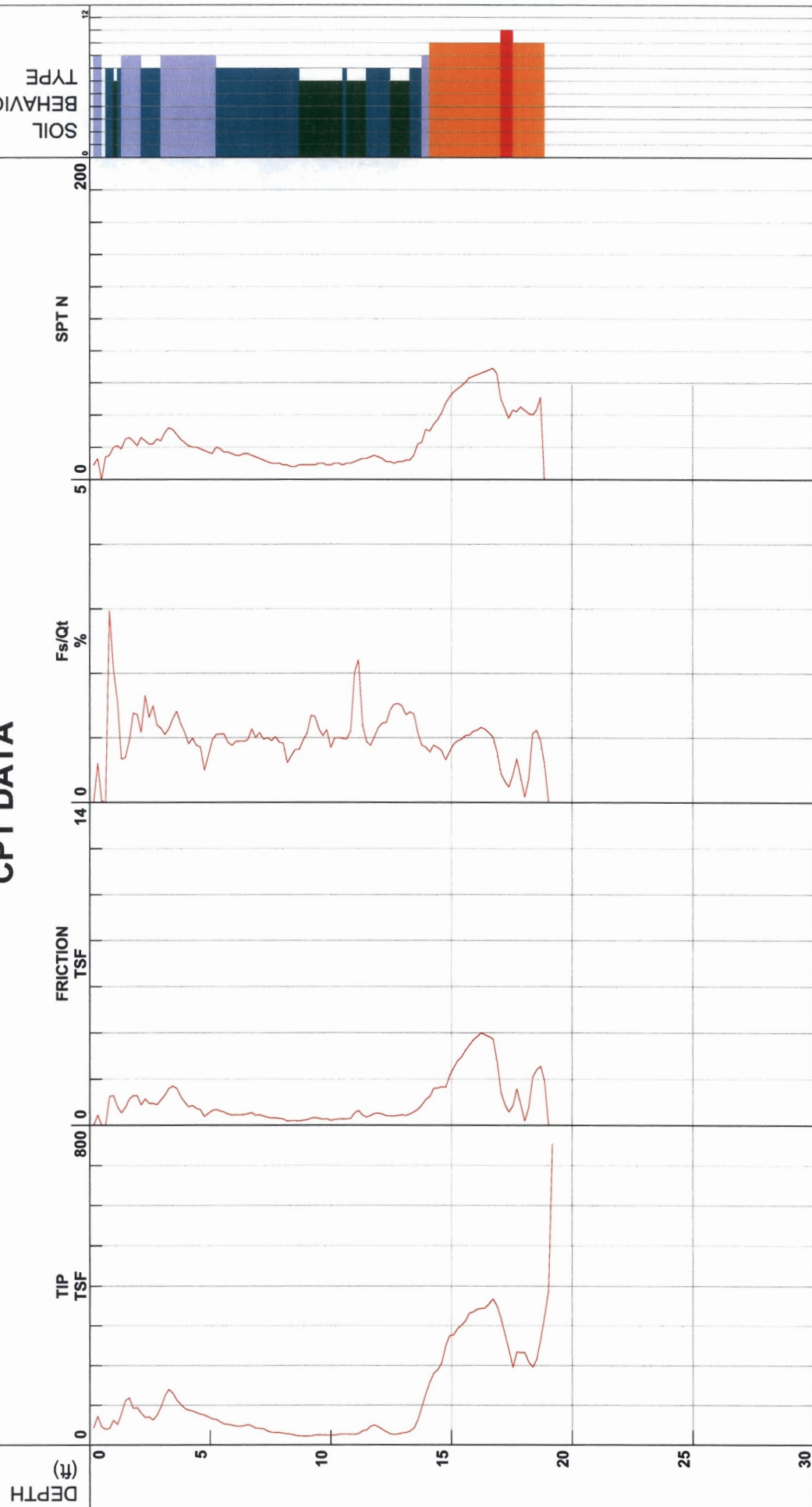
Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-03

Operator
Cone Number
Date and Time
ML-CW
DSA0408
10/11/2006 1:59:52 PM

Filename
GPS
Maximum Depth
SDF(482).cpt
19.19 ft

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Depth Increment



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-03

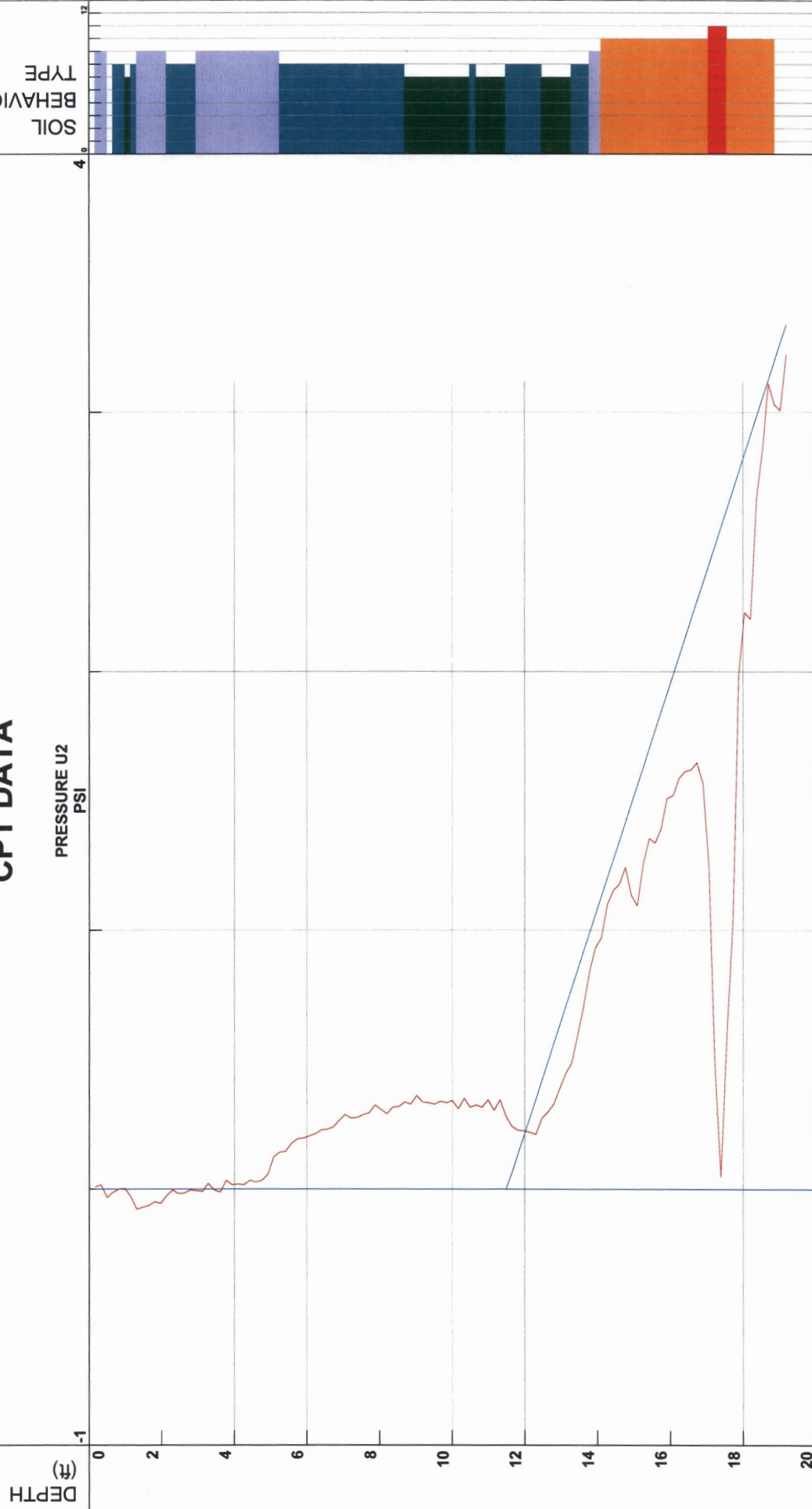
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/11/2006 1:59:52 PM

Filename
GPS
Maximum Depth
19.19 ft

SDF(482).cpt

CPT DATA



*Soil behavior type and SPT based on data from UBC-1983

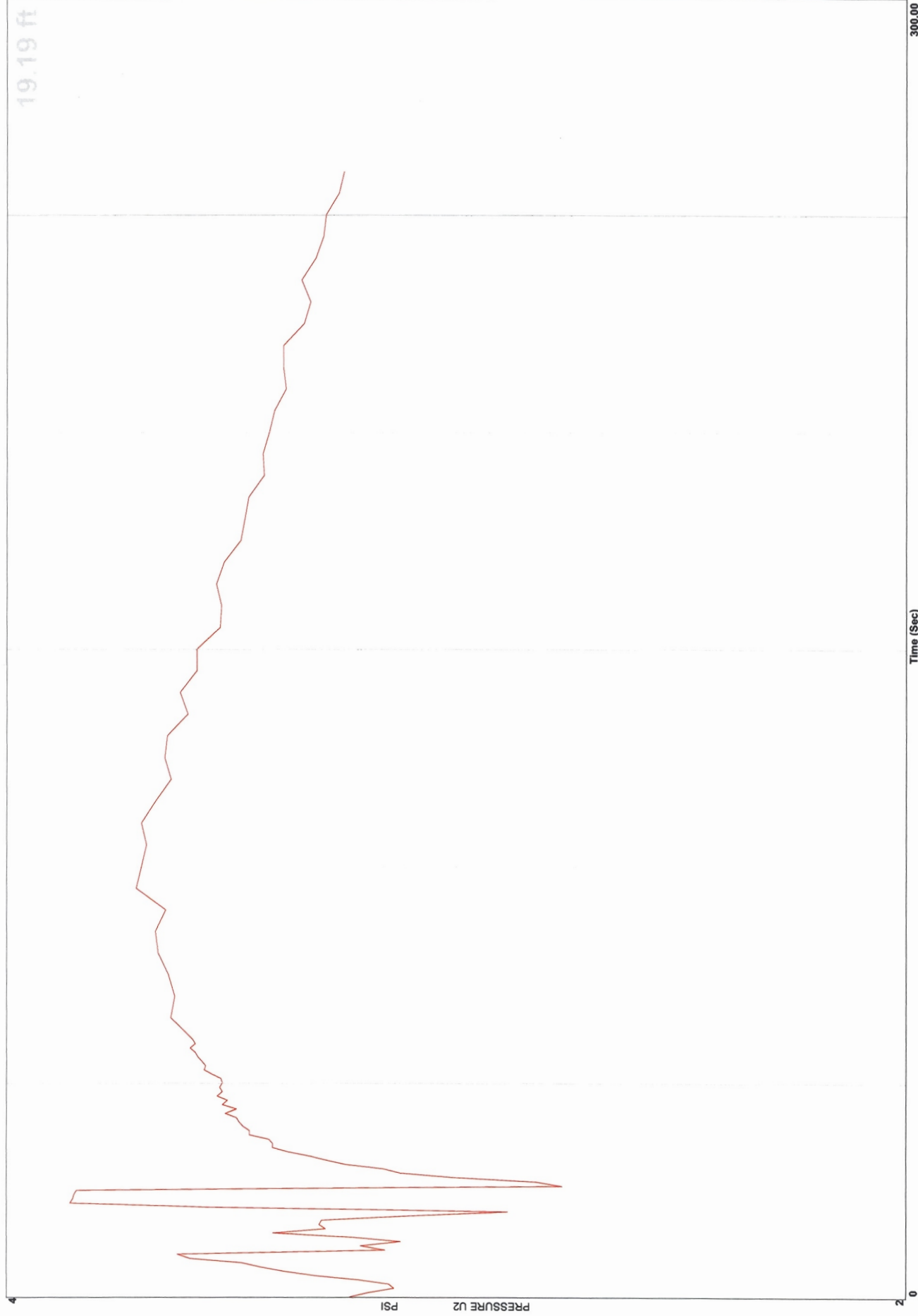


Ninyo & Moore

Location El Segundo NRG Plant
Job Number 206954001
Hole Number CPT-03
Equalized Pressure 3.25

Operator ML-CW
Cone Number DSA0408
Date and Time 10/11/2006 1:59:52 PM
Ground Water Depth 11.68

GPS



Time (Sec)

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(482).cpt
CPT Date: 10/11/2006 1:59:52 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-03
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	qc1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	73.2	117.4	123.7	0.4	0.0	0.6	clean SAND to silty SAND	125	5.0	23	15	72	48	-	16
0.49	45.9	73.7	73.7	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	15	9	57	48	-	16
0.66	39.6	63.6	65.4	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	13	8	52	48	-	16
0.82	42.1	67.6	145.1	1.3	0.0	3.0	silty SAND to sandy SILT	120	4.0	17	11	54	48	-	16
0.98	62.8	100.7	150.7	1.3	0.0	2.1	silty SAND to sandy SILT	120	4.0	25	16	67	48	-	16
1.15	51.7	82.9	120.9	0.8	0.0	1.6	silty SAND to sandy SILT	120	4.0	21	13	61	48	-	16
1.31	79.6	127.7	134.3	0.5	-0.1	0.7	clean SAND to silty SAND	125	5.0	26	16	75	48	-	16
1.48	112.1	179.8	179.8	0.8	-0.1	0.7	clean SAND to silty SAND	125	5.0	36	22	86	48	-	16
1.64	119.1	191.0	197.1	1.1	-0.1	1.0	clean SAND to silty SAND	125	5.0	38	24	88	48	-	16
1.80	92.7	148.6	174.1	1.3	0.0	1.4	clean SAND to silty SAND	125	5.0	30	19	80	48	-	16
1.97	94.3	151.2	175.8	1.3	-0.1	1.4	clean SAND to silty SAND	125	5.0	30	19	81	48	-	16
2.13	81.3	130.4	149.1	0.9	0.0	1.1	clean SAND to silty SAND	125	5.0	26	16	76	48	-	16
2.30	69.3	111.2	148.4	1.1	0.0	1.7	silty SAND to sandy SILT	120	4.0	28	17	70	48	-	16
2.46	71.4	114.5	141.6	0.9	0.0	1.3	clean SAND to silty SAND	125	5.0	23	14	71	48	-	16
2.62	63.3	101.6	135.2	0.9	0.0	1.5	silty SAND to sandy SILT	120	4.0	25	16	68	47	-	16
2.79	74.8	120.0	143.1	0.9	0.0	1.2	clean SAND to silty SAND	125	5.0	24	15	73	48	-	16
2.95	95.8	153.6	171.7	1.1	0.0	1.2	clean SAND to silty SAND	125	5.0	31	19	81	48	-	16
3.12	124.2	199.2	207.8	1.3	0.0	1.1	clean SAND to silty SAND	125	5.0	40	25	90	48	-	16
3.28	140.3	225.0	233.2	1.6	0.0	1.1	clean SAND to silty SAND	125	5.0	45	28	94	48	-	16
3.45	130.7	209.6	226.1	1.7	0.0	1.3	clean SAND to silty SAND	125	5.0	42	26	91	48	-	16
3.61	113.5	182.0	205.4	1.6	0.0	1.4	clean SAND to silty SAND	125	5.0	36	23	87	48	-	16
3.77	102.7	164.8	183.9	1.3	0.0	1.2	clean SAND to silty SAND	125	5.0	33	21	83	48	-	16
3.94	92.6	148.6	165.3	1.0	0.0	1.1	clean SAND to silty SAND	125	5.0	30	19	80	47	-	16
4.10	88.0	141.1	153.2	0.8	0.0	0.9	clean SAND to silty SAND	125	5.0	28	18	78	47	-	16
4.27	85.9	137.7	153.0	0.9	0.0	1.0	clean SAND to silty SAND	125	5.0	28	17	78	46	-	16
4.43	81.8	131.2	143.9	0.7	0.0	0.9	clean SAND to silty SAND	125	5.0	26	16	76	46	-	16
4.59	78.0	125.1	138.1	0.7	0.0	0.9	clean SAND to silty SAND	125	5.0	25	16	74	46	-	16
4.76	75.2	120.7	122.5	0.4	0.0	0.5	clean SAND to silty SAND	125	5.0	24	15	73	45	-	16
4.92	71.0	113.9	124.4	0.5	0.1	0.7	clean SAND to silty SAND	125	5.0	23	14	71	45	-	16
5.09	66.0	105.8	124.4	0.6	0.1	1.0	clean SAND to silty SAND	125	5.0	21	13	69	44	-	16
5.25	64.6	103.6	124.8	0.7	0.1	1.1	clean SAND to silty SAND	125	5.0	21	13	68	44	-	16
5.41	58.1	93.3	115.9	0.6	0.1	1.1	clean SAND to silty SAND	125	5.0	19	12	65	43	-	16
5.58	53.4	85.6	109.4	0.6	0.2	1.1	clean SAND to silty SAND	125	5.0	17	11	62	43	-	16
5.74	51.9	83.3	103.9	0.5	0.2	0.9	clean SAND to silty SAND	125	5.0	17	10	61	42	-	16
5.91	49.8	79.8	99.7	0.4	0.2	0.9	clean SAND to silty SAND	125	5.0	16	10	60	42	-	16
6.07	47.8	75.7	97.9	0.5	0.2	1.0	clean SAND to silty SAND	125	5.0	15	10	58	42	-	16
6.23	46.9	73.3	96.0	0.4	0.2	1.0	clean SAND to silty SAND	125	5.0	15	9	57	42	-	16
6.40	48.5	74.8	97.2	0.5	0.2	1.0	clean SAND to silty SAND	125	5.0	15	10	57	42	-	16
6.56	51.2	77.9	100.4	0.5	0.2	1.0	clean SAND to silty SAND	125	5.0	16	10	59	42	-	16
6.73	48.0	72.2	100.2	0.5	0.2	1.1	silty SAND to sandy SILT	120	4.0	18	12	56	41	-	16
6.89	42.6	63.3	89.3	0.4	0.3	1.0	silty SAND to sandy SILT	120	4.0	16	11	52	40	-	16
7.05	41.9	61.6	89.9	0.5	0.3	1.1	silty SAND to sandy SILT	120	4.0	15	10	51	40	-	16
7.22	40.7	59.1	85.2	0.4	0.3	1.0	silty SAND to sandy SILT	120	4.0	15	10	50	40	-	16
7.38	34.8	50.0	78.6	0.3	0.3	1.0	silty SAND to sandy SILT	120	4.0	12	9	44	39	-	16
7.55	32.0	45.5	73.9	0.3	0.3	1.0	silty SAND to sandy SILT	120	4.0	11	8	41	38	-	16
7.71	31.3	44.0	74.4	0.3	0.3	1.0	silty SAND to sandy SILT	120	4.0	11	8	40	38	-	16
7.87	31.4	43.7	71.9	0.3	0.3	0.9	silty SAND to sandy SILT	120	4.0	11	8	40	38	-	16
8.04	29.4	40.5	69.3	0.3	0.3	0.9	silty SAND to sandy SILT	120	4.0	10	7	37	38	-	16
8.20	28.1	38.4	59.6	0.2	0.3	0.6	silty SAND to sandy SILT	120	4.0	10	7	35	37	-	16
8.37	26.8	36.3	61.0	0.2	0.3	0.7	silty SAND to sandy SILT	120	4.0	9	7	34	37	-	16
8.53	23.9	32.0	60.5	0.2	0.3	0.8	silty SAND to sandy SILT	120	4.0	8	6	29	36	-	16
8.69	22.8	30.2	59.3	0.2	0.3	0.8	silty SAND to sandy SILT	120	4.0	8	6	27	36	-	16
8.86	22.1	29.1	62.1	0.2	0.3	1.0	silty SAND to sandy SILT	120	4.0	7	6	26	35	-	16
9.02	22.1	28.8	64.7	0.2	0.4	1.1	silty SAND to sandy SILT	120	4.0	7	6	26	35	-	16
9.19	22.3	28.9	71.2	0.3	0.3	1.4	silty SAND to sandy SILT	120	4.0	7	6	26	35	-	16
9.35	24.8	31.7	73.0	0.3	0.3	1.4	silty SAND to sandy SILT	120	4.0	8	6	29	36	-	16
9.51	25.3	32.2	68.8	0.3	0.3	1.2	silty SAND to sandy SILT	120	4.0	8	6	30	36	-	16
9.68	24.8	31.2	65.5	0.3	0.3	1.1	silty SAND to sandy SILT	120	4.0	8	6	29	35	-	16
9.84	24.4	30.5	67.3	0.3	0.3	1.2	silty SAND to sandy SILT	120	4.0	8	6	28	35	-	16
10.01	24.1	29.9	59.9	0.2	0.3	0.9	silty SAND to sandy SILT	120	4.0	7	6	27	35	-	16
10.17	24.8	30.5	64.1	0.2	0.3	1.0	silty SAND to sandy SILT	120	4.0	8	6	28	35	-	16
10.34	26.5	32.4	65.6	0.3	0.4	1.0	silty SAND to sandy SILT	120	4.0	8	7	30	35	-	16
10.50	27.4	33.1	65.8	0.3	0.3	1.0	silty SAND to sandy SILT	120	4.0	8	7	31	36	-	16
10.66	27.3	32.8	65.5	0.3	0.3	1.0	silty SAND to sandy SILT	120	4.0	8	7	30	35	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

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Project ID: Ninyo & Moore
Data File: SDF(482).cpt
CPT Date: 10/11/2006 1:59:52 PM
GW During Test: 1.5 ft

Page: 2
Sounding ID: CPT-03
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Rato %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
10.83	26.8	32.0	68.0	0.3	0.3	1.1	silty SAND to sandy SILT	120	4.0	8	7	29	35	-	16
10.99	26.7	31.6	88.5	0.5	0.3	2.1	clayey SILT to silty CLAY	115	2.0	16	13	-	-	1.7	15
11.16	28.7	33.7	94.8	0.6	0.3	2.3	clayey SILT to silty CLAY	115	2.0	17	14	-	-	1.9	15
11.32	35.9	41.9	77.9	0.4	0.3	1.2	silty SAND to sandy SILT	120	4.0	10	9	38	37	-	16
11.48	37.3	43.3	72.2	0.4	0.3	1.0	silty SAND to sandy SILT	120	4.0	11	9	39	37	-	16
11.65	47.5	54.8	79.4	0.4	0.2	0.9	silty SAND to sandy SILT	120	4.0	14	12	47	38	-	16
11.81	50.1	57.7	85.3	0.5	0.2	1.0	silty SAND to sandy SILT	120	4.0	14	13	49	39	-	16
11.98	45.3	52.0	84.6	0.5	0.2	1.2	silty SAND to sandy SILT	120	4.0	13	11	45	38	-	16
12.14	39.2	44.8	80.8	0.5	0.2	1.3	silty SAND to sandy SILT	120	4.0	11	10	40	37	-	16
12.30	33.1	37.7	75.6	0.4	0.2	1.3	silty SAND to sandy SILT	120	4.0	9	8	35	36	-	16
12.47	27.8	31.6	75.8	0.4	0.3	1.5	silty SAND to sandy SILT	120	4.0	8	7	29	35	-	16
12.63	26.2	29.7	76.2	0.4	0.3	1.6	silty SAND to sandy SILT	120	4.0	7	7	27	34	-	16
12.80	27.9	31.5	78.0	0.4	0.3	1.6	silty SAND to sandy SILT	120	4.0	8	7	29	35	-	16
12.96	30.0	33.8	78.9	0.4	0.4	1.5	silty SAND to sandy SILT	120	4.0	8	8	31	35	-	16
13.12	31.0	34.8	76.5	0.4	0.4	1.4	silty SAND to sandy SILT	120	4.0	9	8	32	35	-	16
13.29	35.2	39.3	81.2	0.5	0.5	1.4	silty SAND to sandy SILT	120	4.0	10	9	36	36	-	16
13.45	42.8	47.7	87.0	0.6	0.6	1.4	silty SAND to sandy SILT	120	4.0	12	11	43	37	-	16
13.62	64.5	71.7	98.5	0.7	0.7	1.1	silty SAND to sandy SILT	120	4.0	18	16	56	40	-	16
13.78	98.2	108.8	125.0	0.9	0.8	0.9	clean SAND to silty SAND	125	5.0	22	20	70	42	-	16
13.94	131.1	144.7	155.0	1.1	0.9	0.9	clean SAND to silty SAND	125	5.0	29	26	79	43	-	16
14.11	159.2	175.3	177.1	1.2	1.0	0.8	clean SAND to silty SAND	125	5.0	35	32	86	44	-	16
14.27	181.0	198.6	200.3	1.6	1.1	0.9	clean SAND to silty SAND	125	5.0	40	36	90	45	-	16
14.44	189.7	207.5	207.5	1.6	1.2	0.9	clean SAND to silty SAND	125	5.0	41	38	91	45	-	16
14.60	206.3	224.9	224.9	1.7	1.2	0.8	clean SAND to silty SAND	125	5.0	45	41	94	45	-	16
14.76	249.8	271.5	271.5	1.7	1.2	0.7	clean SAND to silty SAND	125	5.0	54	50	95	46	-	16
14.93	275.1	297.9	297.9	2.2	1.1	0.8	clean SAND to silty SAND	125	5.0	60	55	95	46	-	16
15.09	276.8	298.8	298.8	2.5	1.1	0.9	clean SAND to silty SAND	125	5.0	60	55	95	46	-	16
15.26	292.7	315.0	315.0	2.8	1.3	1.0	clean SAND to silty SAND	125	5.0	63	59	95	47	-	16
15.42	301.8	323.7	323.7	3.0	1.4	1.0	clean SAND to silty SAND	125	5.0	65	60	95	47	-	16
15.58	311.7	333.4	333.4	3.2	1.3	1.0	clean SAND to silty SAND	125	5.0	67	62	95	47	-	16
15.75	332.0	353.9	353.9	3.5	1.4	1.0	clean SAND to silty SAND	125	5.0	71	66	95	47	-	16
15.91	335.5	356.6	356.6	3.7	1.5	1.1	clean SAND to silty SAND	125	5.0	71	67	95	47	-	16
16.08	342.3	362.7	362.7	3.8	1.5	1.1	clean SAND to silty SAND	125	5.0	73	68	95	47	-	16
16.24	343.8	363.2	363.2	4.0	1.6	1.2	clean SAND to silty SAND	125	5.0	73	69	95	47	-	16
16.40	345.4	363.8	363.8	3.9	1.6	1.1	clean SAND to silty SAND	125	5.0	73	69	95	47	-	16
16.57	356.1	373.9	373.9	3.8	1.6	1.1	clean SAND to silty SAND	125	5.0	75	71	95	47	-	16
16.73	368.1	385.3	385.3	3.7	1.6	1.0	clean SAND to silty SAND	125	5.0	77	74	95	47	-	16
16.90	351.2	366.6	366.6	2.8	1.6	0.8	clean SAND to silty SAND	125	5.0	73	70	95	47	-	16
17.06	317.5	330.5	330.5	1.4	1.2	0.5	grvly SAND to dense SAND	130	6.0	55	53	95	47	-	16
17.23	278.5	289.0	289.0	0.9	0.5	0.3	grvly SAND to dense SAND	130	6.0	48	46	95	46	-	16
17.39	239.9	248.1	248.1	0.6	0.0	0.2	grvly SAND to dense SAND	130	6.0	41	40	95	45	-	16
17.55	196.3	202.4	202.4	0.9	0.6	0.4	clean SAND to silty SAND	125	5.0	40	39	90	45	-	16
17.72	234.3	240.9	240.9	1.6	1.0	0.7	clean SAND to silty SAND	125	5.0	48	47	95	45	-	16
17.88	232.4	238.3	238.3	0.9	2.0	0.4	clean SAND to silty SAND	125	5.0	48	46	95	45	-	16
18.05	232.5	237.6	237.6	0.2	2.2	0.1	grvly SAND to dense SAND	130	6.0	40	39	95	45	-	16
18.21	209.4	213.3	213.3	0.8	2.2	0.4	clean SAND to silty SAND	125	5.0	43	42	92	45	-	16
18.37	196.4	199.5	209.1	2.1	2.7	1.1	clean SAND to silty SAND	125	5.0	40	39	90	44	-	16
18.54	215.8	218.7	227.3	2.4	2.9	1.1	clean SAND to silty SAND	125	5.0	44	43	93	45	-	16
18.70	266.5	269.3	269.3	2.6	3.1	1.0	clean SAND to silty SAND	125	5.0	54	53	95	46	-	16
18.87	323.4	325.9	325.9	1.9	3.0	0.6	clean SAND to silty SAND	125	5.0	65	65	95	47	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

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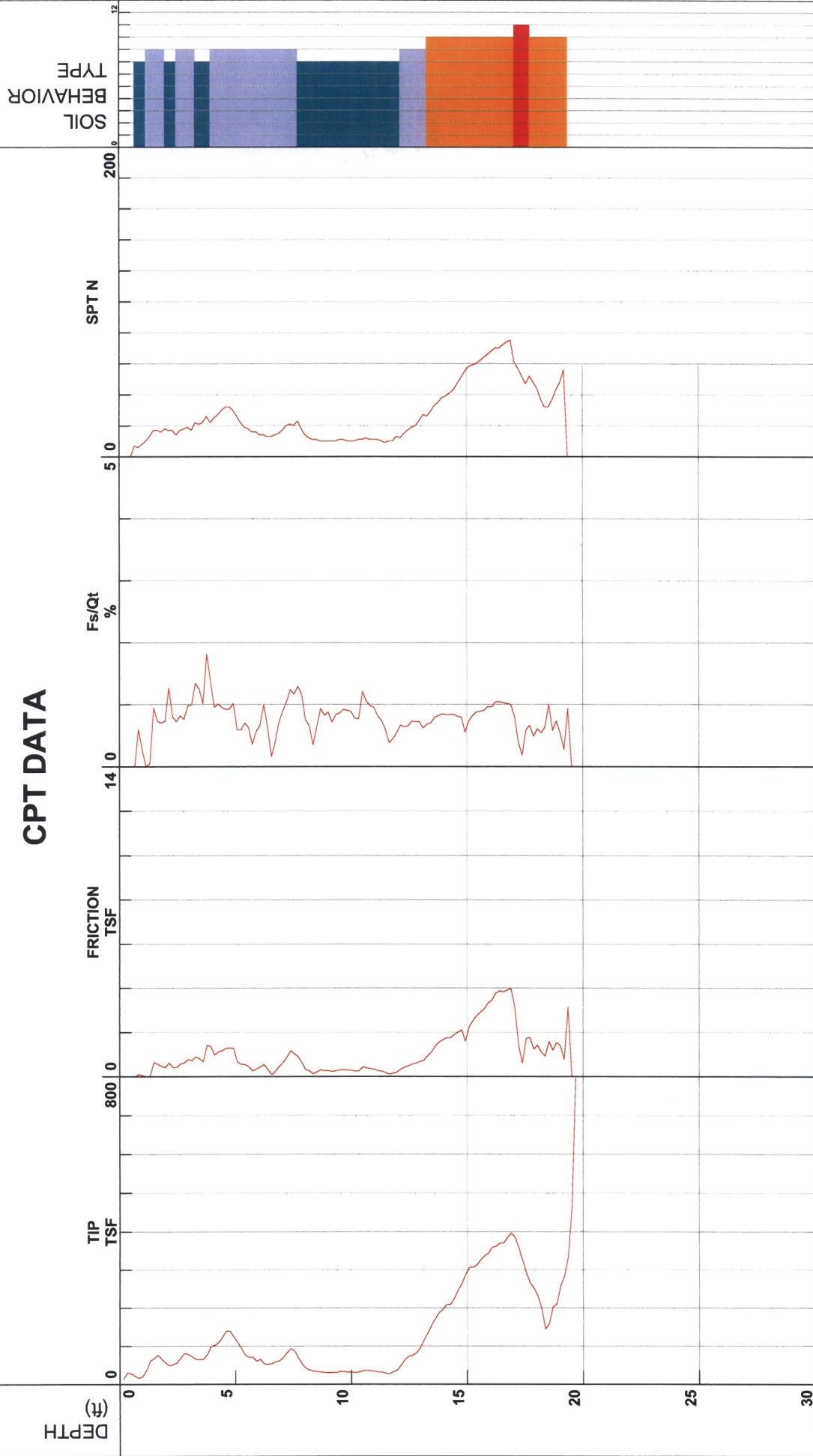


Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

Operator
Cone Number
Date and Time
11.50 ft

Filename
GPS
Maximum Depth



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-03A

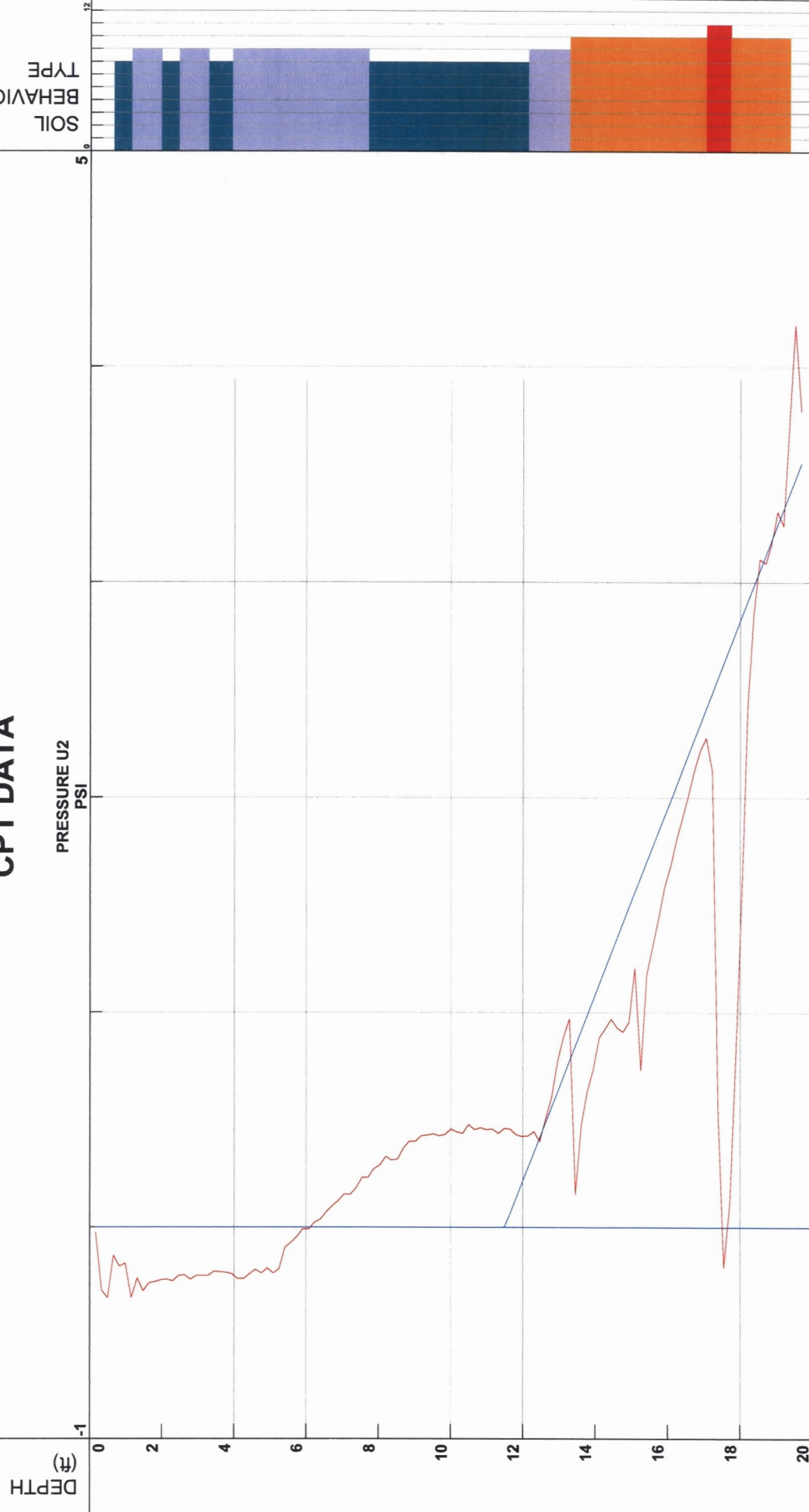
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/11/2006 3:00:21 PM

Filename
GPS
Maximum Depth

SDF(483).cpt
19.68 ft

CPT DATA



*Soil behavior type and SPT based on data from UBC-1983

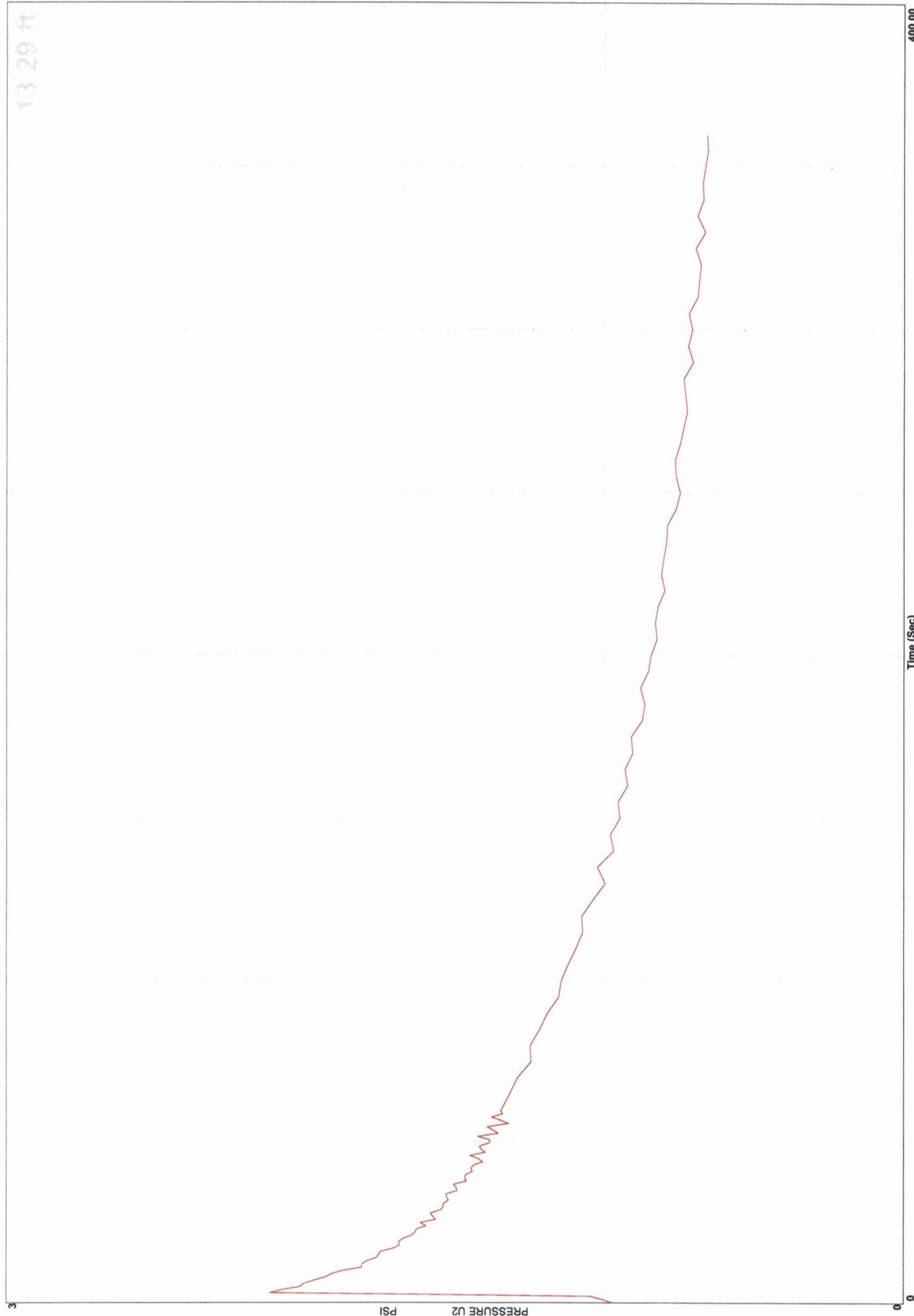


Ninyo & Moore

Location El Segundo NRG Plant
Job Number 206954001
Hole Number CPT-03A
Equilized Pressure .66

Operator ML-CW
Cone Number DSA0408
Date and Time 10/11/2006 3:00:21 PM
Ground Water Depth 11.76

GPS



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Project ID: Ninyo & Moore
Data File: SDF(483).cpt
CPT Date: 10/11/2006 3:00:21 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-03A
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qcln PS -	* qncs PS -	* Slv Stss tsf	* pore prss (psi)	* Frct Ratio %	* Material Behavior Description	Unit Wght pcf	Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	Und Shr tsf	* Nk -
0.33	31.1	49.9	54.9	0.1	-0.3	0.1	clean SAND to silty SAND	125	5.0	10	6	44	48	-	16
0.49	28.1	45.0	51.0	0.1	-0.3	0.1	clean SAND to silty SAND	125	5.0	9	6	41	48	-	16
0.66	22.1	35.5	43.6	0.1	-0.1	0.1	clean SAND to silty SAND	125	5.0	7	4	33	48	-	16
0.82	16.3	26.1	49.8	0.1	-0.2	0.6	silty SAND to sandy SILT	120	4.0	7	4	23	46	-	16
0.98	20.7	33.2	45.8	0.1	-0.2	0.3	clean SAND to silty SAND	125	5.0	7	4	31	46	-	16
1.15	36.6	58.7	61.8	0.1	-0.3	0.1	clean SAND to silty SAND	125	5.0	12	7	49	48	-	16
1.31	61.9	99.3	99.3	0.1	-0.2	0.1	clean SAND to silty SAND	125	5.0	20	12	67	48	-	16
1.48	67.9	108.9	126.4	0.6	-0.3	1.0	clean SAND to silty SAND	125	5.0	22	14	70	48	-	16
1.64	77.3	123.9	133.1	0.6	-0.3	0.7	clean SAND to silty SAND	125	5.0	25	15	74	48	-	16
1.80	66.7	107.0	118.1	0.5	-0.3	0.7	clean SAND to silty SAND	125	5.0	21	13	69	48	-	16
1.97	56.8	91.1	105.1	0.4	-0.2	0.7	clean SAND to silty SAND	125	5.0	18	11	64	48	-	16
2.13	49.0	78.5	108.7	0.6	-0.2	1.3	silty SAND to sandy SILT	120	4.0	20	12	59	47	-	16
2.30	52.6	84.3	101.2	0.4	-0.3	0.8	clean SAND to silty SAND	125	5.0	17	11	61	47	-	16
2.46	56.6	90.8	104.8	0.4	-0.2	0.7	clean SAND to silty SAND	125	5.0	18	11	64	47	-	16
2.62	69.5	111.4	125.1	0.6	-0.2	0.8	clean SAND to silty SAND	125	5.0	22	14	71	47	-	16
2.79	81.8	131.2	140.4	0.6	-0.2	0.8	clean SAND to silty SAND	125	5.0	26	16	76	48	-	16
2.95	78.5	125.9	142.3	0.8	-0.2	1.0	clean SAND to silty SAND	125	5.0	25	16	75	47	-	16
3.12	72.9	117.0	134.9	0.7	-0.2	1.0	clean SAND to silty SAND	125	5.0	23	15	72	47	-	16
3.28	66.6	106.7	135.6	0.9	-0.2	1.4	clean SAND to silty SAND	125	5.0	21	13	69	46	-	16
3.45	64.9	104.2	130.5	0.8	-0.2	1.3	clean SAND to silty SAND	125	5.0	21	13	68	46	-	16
3.61	66.3	106.3	126.1	0.7	-0.2	1.0	clean SAND to silty SAND	125	5.0	21	13	69	46	-	16
3.77	78.3	125.5	166.5	1.4	-0.2	1.8	silty SAND to sandy SILT	120	4.0	31	20	74	46	-	16
3.94	99.3	159.2	183.4	1.4	-0.2	1.4	clean SAND to silty SAND	125	5.0	32	20	82	47	-	16
4.10	102.8	164.8	175.1	1.0	-0.2	1.0	clean SAND to silty SAND	125	5.0	33	21	83	47	-	16
4.27	110.3	176.9	187.3	1.1	-0.2	1.0	clean SAND to silty SAND	125	5.0	35	22	86	47	-	16
4.43	123.8	198.6	203.2	1.2	-0.2	1.0	clean SAND to silty SAND	125	5.0	40	25	90	48	-	16
4.59	140.2	224.9	224.9	1.3	-0.2	0.9	clean SAND to silty SAND	125	5.0	45	28	94	48	-	16
4.76	139.6	223.9	223.9	1.3	-0.2	0.9	clean SAND to silty SAND	125	5.0	45	28	94	48	-	16
4.92	125.1	200.7	208.0	1.3	-0.2	1.0	clean SAND to silty SAND	125	5.0	40	25	90	47	-	16
5.09	110.4	177.1	177.1	0.7	-0.2	0.6	clean SAND to silty SAND	125	5.0	35	22	86	47	-	16
5.25	94.8	152.0	152.0	0.6	-0.2	0.6	clean SAND to silty SAND	125	5.0	30	19	81	46	-	16
5.41	76.5	122.8	131.5	0.5	-0.1	0.7	clean SAND to silty SAND	125	5.0	25	15	74	45	-	16
5.58	71.5	114.6	122.4	0.5	-0.1	0.6	clean SAND to silty SAND	125	5.0	23	14	72	44	-	16
5.74	71.8	115.2	115.2	0.3	0.0	0.4	clean SAND to silty SAND	125	5.0	23	14	72	44	-	16
5.91	60.9	97.7	106.4	0.3	0.0	0.6	clean SAND to silty SAND	125	5.0	20	12	66	43	-	16
6.07	66.3	104.8	115.2	0.4	0.0	0.7	clean SAND to silty SAND	125	5.0	21	13	69	43	-	16
6.23	53.8	84.0	106.5	0.5	0.0	1.0	clean SAND to silty SAND	125	5.0	17	11	61	42	-	16
6.40	53.1	81.8	95.2	0.3	0.0	0.7	clean SAND to silty SAND	125	5.0	16	11	60	42	-	16
6.56	54.3	82.6	82.6	0.1	0.1	0.2	clean SAND to silty SAND	125	5.0	17	11	61	42	-	16
6.73	59.7	89.7	94.5	0.2	0.1	0.4	clean SAND to silty SAND	125	5.0	18	12	63	42	-	16
6.89	62.3	92.4	105.9	0.4	0.1	0.7	clean SAND to silty SAND	125	5.0	18	12	64	42	-	16
7.05	70.2	102.9	119.9	0.6	0.2	0.9	clean SAND to silty SAND	125	5.0	21	14	68	43	-	16
7.22	83.0	120.3	139.3	0.9	0.2	1.0	clean SAND to silty SAND	125	5.0	24	17	73	44	-	16
7.38	93.8	134.4	157.4	1.2	0.2	1.2	clean SAND to silty SAND	125	5.0	27	19	77	44	-	16
7.55	88.5	125.5	147.4	1.0	0.2	1.2	clean SAND to silty SAND	125	5.0	25	18	74	44	-	16
7.71	69.9	98.1	126.7	0.9	0.2	1.3	clean SAND to silty SAND	125	5.0	20	14	66	42	-	16
7.87	53.5	74.2	102.8	0.6	0.3	1.2	silty SAND to sandy SILT	120	4.0	19	13	57	41	-	16
8.04	42.8	58.9	79.1	0.3	0.3	0.8	clean SAND to silty SAND	125	5.0	12	9	50	40	-	16
8.20	37.6	51.1	70.4	0.2	0.3	0.7	clean SAND to silty SAND	125	5.0	10	8	45	39	-	16
8.37	35.2	47.3	59.2	0.1	0.3	0.4	clean SAND to silty SAND	125	5.0	9	7	42	38	-	16
8.53	33.9	45.2	65.8	0.2	0.3	0.7	silty SAND to sandy SILT	120	4.0	11	8	41	38	-	16
8.69	32.2	42.5	71.3	0.3	0.4	1.0	silty SAND to sandy SILT	120	4.0	11	8	39	38	-	16
8.86	31.6	41.3	67.5	0.3	0.4	0.8	silty SAND to sandy SILT	120	4.0	10	8	38	37	-	16
9.02	30.8	39.9	67.9	0.3	0.4	0.9	silty SAND to sandy SILT	120	4.0	10	8	37	37	-	16
9.19	31.6	40.6	64.0	0.2	0.4	0.7	silty SAND to sandy SILT	120	4.0	10	8	37	37	-	16
9.35	31.0	39.5	66.5	0.3	0.4	0.9	silty SAND to sandy SILT	120	4.0	10	8	36	37	-	16
9.51	34.2	43.2	69.9	0.3	0.4	0.9	silty SAND to sandy SILT	120	4.0	11	9	39	37	-	16
9.68	33.6	42.2	70.6	0.3	0.4	0.9	silty SAND to sandy SILT	120	4.0	11	8	39	37	-	16
9.84	31.9	39.7	68.4	0.3	0.4	0.9	silty SAND to sandy SILT	120	4.0	10	8	36	37	-	16
10.01	32.0	39.5	67.8	0.3	0.5	0.9	silty SAND to sandy SILT	120	4.0	10	8	36	37	-	16
10.17	31.2	38.3	64.0	0.2	0.4	0.8	silty SAND to sandy SILT	120	4.0	10	8	35	37	-	16
10.34	32.7	39.7	64.8	0.3	0.4	0.8	silty SAND to sandy SILT	120	4.0	10	8	37	37	-	16
10.50	36.2	43.7	79.4	0.4	0.5	1.2	silty SAND to sandy SILT	120	4.0	11	9	40	37	-	16
10.66	36.9	44.2	75.8	0.4	0.5	1.1	silty SAND to sandy SILT	120	4.0	11	9	40	37	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(483).cpt
CPT Date: 10/11/2006 3:00:21 PM
GW During Test: 1.5 ft

Page: 2
Sounding ID: CPT-03A
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qcln PS -	* qncs PS -	* Slv Stss tsf (psi)	* pore prss (psi)	* Frct Ratio %	* Material Behavior Description	Unit Wght pcf	Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	Und Shr tsf	* Nk -
10.83	35.9	42.6	72.6	0.4	0.5	1.0	silty SAND to sandy SILT	120	4.0	11	9	39	37	-	16
10.99	34.5	40.7	70.5	0.3	0.5	1.0	silty SAND to sandy SILT	120	4.0	10	9	37	37	-	16
11.16	32.4	37.9	64.9	0.3	0.5	0.8	silty SAND to sandy SILT	120	4.0	9	8	35	36	-	16
11.32	32.2	37.4	62.4	0.2	0.4	0.8	silty SAND to sandy SILT	120	4.0	9	8	35	36	-	16
11.48	29.3	33.8	56.3	0.2	0.5	0.6	silty SAND to sandy SILT	120	4.0	8	7	31	35	-	16
11.65	27.6	31.8	48.7	0.1	0.5	0.4	silty SAND to sandy SILT	120	4.0	8	7	29	35	-	16
11.81	33.2	38.1	55.0	0.1	0.4	0.5	silty SAND to sandy SILT	120	4.0	10	8	35	36	-	16
11.98	37.4	42.7	61.0	0.2	0.4	0.6	silty SAND to sandy SILT	120	4.0	11	9	39	37	-	16
12.14	49.8	56.8	75.2	0.3	0.4	0.7	clean SAND to silty SAND	125	5.0	11	10	48	38	-	16
12.30	64.8	73.6	88.3	0.4	0.4	0.6	clean SAND to silty SAND	125	5.0	15	13	57	40	-	16
12.47	73.6	83.2	96.8	0.5	0.4	0.7	clean SAND to silty SAND	125	5.0	17	15	61	40	-	16
12.63	76.4	86.1	101.3	0.6	0.5	0.7	clean SAND to silty SAND	125	5.0	17	15	62	41	-	16
12.80	82.2	92.3	106.3	0.6	0.6	0.7	clean SAND to silty SAND	125	5.0	18	16	64	41	-	16
12.96	94.2	105.4	117.5	0.7	0.8	0.7	clean SAND to silty SAND	125	5.0	21	19	69	42	-	16
13.12	115.4	128.8	133.6	0.7	0.9	0.6	clean SAND to silty SAND	125	5.0	26	23	75	43	-	16
13.29	133.9	148.9	152.3	0.9	1.0	0.7	clean SAND to silty SAND	125	5.0	30	27	80	43	-	16
13.45	154.1	170.8	170.8	1.1	0.2	0.7	clean SAND to silty SAND	125	5.0	34	31	85	44	-	16
13.62	171.8	189.8	189.8	1.4	0.5	0.8	clean SAND to silty SAND	125	5.0	38	34	88	45	-	16
13.78	187.7	206.7	206.7	1.5	0.6	0.8	clean SAND to silty SAND	125	5.0	41	38	91	45	-	16
13.94	195.9	215.0	215.0	1.7	0.7	0.9	clean SAND to silty SAND	125	5.0	43	39	92	45	-	16
14.11	209.2	228.8	228.8	1.7	0.9	0.8	clean SAND to silty SAND	125	5.0	46	42	94	45	-	16
14.27	208.8	227.6	227.6	1.7	0.9	0.8	clean SAND to silty SAND	125	5.0	46	42	94	45	-	16
14.44	224.5	244.0	244.0	1.9	1.0	0.8	clean SAND to silty SAND	125	5.0	49	45	95	46	-	16
14.60	246.3	266.9	266.9	2.0	0.9	0.8	clean SAND to silty SAND	125	5.0	53	49	95	46	-	16
14.76	263.7	284.8	284.8	2.1	0.9	0.8	clean SAND to silty SAND	125	5.0	57	53	95	46	-	16
14.93	287.7	309.8	309.8	1.6	1.0	0.6	clean SAND to silty SAND	125	5.0	62	58	95	47	-	16
15.09	306.2	328.6	328.6	2.3	1.2	0.7	clean SAND to silty SAND	125	5.0	66	61	95	47	-	16
15.26	306.6	328.0	328.0	2.5	0.7	0.8	clean SAND to silty SAND	125	5.0	66	61	95	47	-	16
15.42	312.8	333.6	333.6	2.8	1.2	0.9	clean SAND to silty SAND	125	5.0	67	63	95	47	-	16
15.58	326.5	347.1	347.1	2.9	1.3	0.9	clean SAND to silty SAND	125	5.0	69	65	95	47	-	16
15.75	337.4	357.6	357.6	3.1	1.4	0.9	clean SAND to silty SAND	125	5.0	72	67	95	47	-	16
15.91	344.4	363.9	363.9	3.3	1.6	1.0	clean SAND to silty SAND	125	5.0	73	69	95	47	-	16
16.08	359.3	378.5	378.5	3.5	1.7	1.0	clean SAND to silty SAND	125	5.0	76	72	95	47	-	16
16.24	362.4	380.6	380.6	3.8	1.8	1.0	clean SAND to silty SAND	125	5.0	76	72	95	47	-	16
16.40	370.4	387.9	387.9	3.9	1.9	1.0	clean SAND to silty SAND	125	5.0	78	74	95	47	-	16
16.57	370.8	387.1	387.1	3.8	2.0	1.0	clean SAND to silty SAND	125	5.0	77	74	95	47	-	16
16.73	384.6	400.4	400.4	3.9	2.1	1.0	clean SAND to silty SAND	125	5.0	80	77	95	48	-	16
16.90	396.3	411.4	411.4	4.0	2.2	1.0	clean SAND to silty SAND	125	5.0	82	79	95	48	-	16
17.06	386.9	400.4	400.4	3.1	2.3	0.8	clean SAND to silty SAND	125	5.0	80	77	95	48	-	16
17.23	358.5	370.0	370.0	1.4	2.1	0.4	grvly SAND to dense SAND	130	6.0	62	60	95	47	-	16
17.39	325.8	335.2	335.2	0.6	0.6	0.2	grvly SAND to dense SAND	130	6.0	56	54	95	47	-	16
17.55	291.8	299.3	299.3	1.7	-0.2	0.6	clean SAND to silty SAND	125	5.0	60	58	95	46	-	16
17.72	265.9	271.9	271.9	1.8	0.1	0.7	clean SAND to silty SAND	125	5.0	54	53	95	46	-	16
17.88	252.0	257.0	257.0	1.2	0.8	0.5	clean SAND to silty SAND	125	5.0	51	50	95	46	-	16
18.05	232.3	236.2	236.2	1.4	1.5	0.6	clean SAND to silty SAND	125	5.0	47	46	95	45	-	16
18.21	200.1	202.9	202.9	1.1	2.4	0.6	clean SAND to silty SAND	125	5.0	41	40	90	44	-	16
18.37	145.1	146.8	148.6	0.9	2.9	0.6	clean SAND to silty SAND	125	5.0	29	29	80	43	-	16
18.54	158.6	159.9	173.0	1.6	3.1	1.0	clean SAND to silty SAND	125	5.0	32	32	82	43	-	16
18.70	204.1	205.2	205.2	1.2	3.1	0.6	clean SAND to silty SAND	125	5.0	41	41	91	44	-	16
18.87	210.4	211.0	211.0	1.6	3.2	0.7	clean SAND to silty SAND	125	5.0	42	42	92	45	-	16
19.03	258.0	258.0	258.0	1.4	3.3	0.5	clean SAND to silty SAND	125	5.0	52	52	95	45	-	16
19.19	283.5	282.7	282.7	0.8	3.3	0.3	grvly SAND to dense SAND	130	6.0	47	47	95	46	-	16
19.36	335.0	333.2	333.2	3.2	3.7	0.9	clean SAND to silty SAND	125	5.0	67	67	95	47	-	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

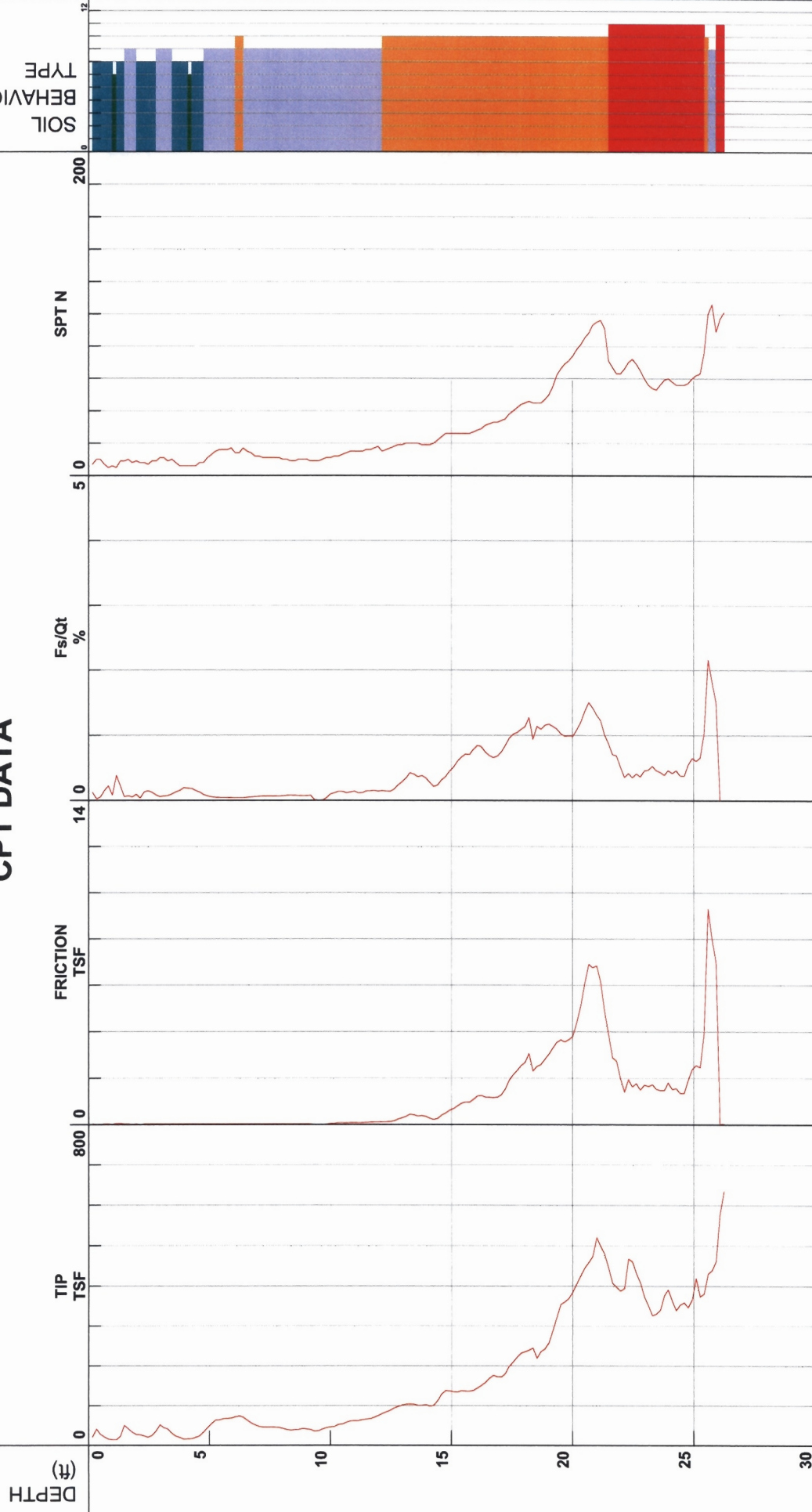
El Segundo NRG Plant
206954001
CPT-04

Operator
Cone Number
Date and Time
Maximum Depth

ML-CW
DSA0408
10/12/2006 12:32:41 PM
11.50 ft

Filename
GPS
SDF(489).cpt
26.25 ft

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Depth Increment



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-04

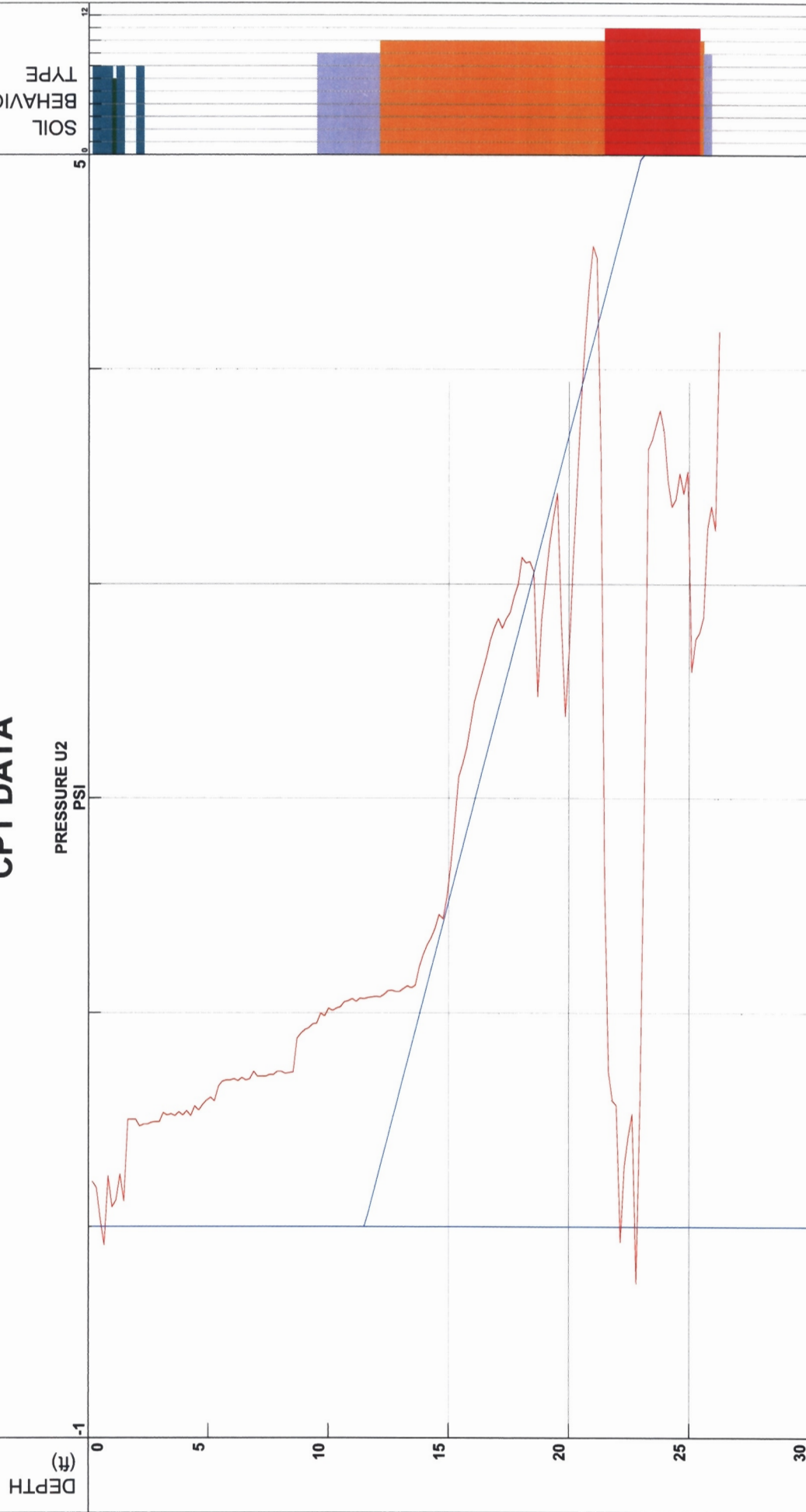
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/12/2006 12:32:41 PM

Filename
GPS
Maximum Depth

SDF(489).cpt
26.25 ft

CPT DATA



*Soil behavior type and SPT based on data from UBC-1983

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(489).cpt
CPT Date: 10/12/2006 12:32:41 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-04
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	41.4	66.4	67.5	0.1	0.2	0.1	clean SAND to silty SAND	125	5.0	13	8	53	48	-	16
0.49	27.9	44.7	50.8	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	9	6	40	48	-	16
0.66	21.2	34.0	43.4	0.1	0.5	0.2	clean SAND to silty SAND	125	5.0	7	4	31	48	-	16
0.82	15.8	25.3	39.2	0.1	0.2	0.2	silty SAND to sandy SILT	120	4.0	6	4	22	46	-	16
0.98	14.1	22.7	34.4	0.1	0.1	0.1	silty SAND to sandy SILT	120	4.0	6	4	18	45	-	16
1.15	14.4	23.2	42.1	0.1	0.1	0.4	silty SAND to sandy SILT	120	4.0	6	4	19	44	-	16
1.31	22.4	36.0	46.9	0.1	0.2	0.2	clean SAND to silty SAND	125	5.0	7	4	33	46	-	16
1.48	50.5	81.0	81.0	0.1	0.1	0.1	clean SAND to silty SAND	125	5.0	16	10	60	48	-	16
1.64	42.1	67.5	68.3	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	14	8	54	47	-	16
1.80	33.7	54.1	58.2	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	11	7	47	46	-	16
1.97	27.2	43.5	49.9	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	9	5	40	45	-	16
2.13	26.8	42.9	49.4	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	9	5	39	44	-	16
2.30	23.5	37.8	45.9	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	8	5	35	43	-	16
2.46	20.8	33.3	42.9	0.1	0.5	0.2	clean SAND to silty SAND	125	5.0	7	4	31	42	-	16
2.62	24.8	39.7	47.3	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	8	5	37	43	-	16
2.79	35.9	57.5	60.9	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	12	7	49	44	-	16
2.95	52.1	83.6	83.6	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	17	10	61	46	-	16
3.12	44.5	71.3	71.3	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	14	9	56	45	-	16
3.28	41.3	66.3	67.5	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	13	8	53	44	-	16
3.45	30.4	48.8	54.0	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	10	6	43	42	-	16
3.61	23.3	37.4	45.7	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	7	5	35	41	-	16
3.77	20.0	32.0	42.2	0.1	0.5	0.2	clean SAND to silty SAND	125	5.0	6	4	29	40	-	16
3.94	15.8	25.4	38.7	0.1	0.5	0.2	silty SAND to sandy SILT	120	4.0	6	4	22	38	-	16
4.10	16.5	26.4	39.2	0.1	0.5	0.2	silty SAND to sandy SILT	120	4.0	7	4	23	38	-	16
4.27	16.8	26.9	39.5	0.1	0.5	0.2	silty SAND to sandy SILT	120	4.0	7	4	24	38	-	16
4.43	20.1	32.2	42.4	0.1	0.6	0.2	clean SAND to silty SAND	125	5.0	6	4	30	39	-	16
4.59	23.9	38.3	46.4	0.1	0.5	0.1	clean SAND to silty SAND	125	5.0	8	5	35	40	-	16
4.76	33.5	53.7	58.0	0.1	0.6	0.1	clean SAND to silty SAND	125	5.0	11	7	46	41	-	16
4.92	44.0	70.6	70.6	0.1	0.6	0.1	clean SAND to silty SAND	125	5.0	14	9	56	42	-	16
5.09	54.8	87.9	87.9	0.1	0.6	0.1	clean SAND to silty SAND	125	5.0	18	11	63	43	-	16
5.25	63.8	102.4	102.4	0.1	0.6	0.1	clean SAND to silty SAND	125	5.0	20	13	68	44	-	16
5.41	64.5	103.4	103.4	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	21	13	68	44	-	16
5.58	67.2	107.8	107.8	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	22	13	69	44	-	16
5.74	67.8	108.8	108.8	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	22	14	70	44	-	16
5.91	69.0	110.7	110.7	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	22	14	70	44	-	16
6.07	71.9	113.9	113.9	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	23	14	71	44	-	16
6.23	73.9	115.5	115.5	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	23	15	72	44	-	16
6.40	71.2	109.9	109.9	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	22	14	70	44	-	16
6.56	63.4	96.6	96.6	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	19	13	66	43	-	16
6.73	56.7	85.2	85.2	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	17	11	62	42	-	16
6.89	51.5	76.5	76.5	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	15	10	58	41	-	16
7.05	47.7	70.1	70.3	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	14	10	55	41	-	16
7.22	45.9	66.6	67.8	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	13	9	54	41	-	16
7.38	45.7	65.6	67.1	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	13	9	53	40	-	16
7.55	46.0	65.3	66.9	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	13	9	53	40	-	16
7.71	45.9	64.4	66.3	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	13	9	53	40	-	16
7.87	45.1	62.6	64.9	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	13	9	52	40	-	16
8.04	42.6	58.6	61.9	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	12	9	49	40	-	16
8.20	39.6	53.8	58.2	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	11	8	47	39	-	16
8.37	38.2	51.5	56.3	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	10	8	45	39	-	16
8.53	39.3	52.4	57.1	0.1	0.7	0.1	clean SAND to silty SAND	125	5.0	10	8	46	39	-	16
8.69	40.2	53.1	57.6	0.1	0.9	0.1	clean SAND to silty SAND	125	5.0	11	8	46	39	-	16
8.86	42.4	55.5	59.5	0.1	0.9	0.1	clean SAND to silty SAND	125	5.0	11	8	48	39	-	16
9.02	41.2	53.4	57.9	0.1	0.9	0.1	clean SAND to silty SAND	125	5.0	11	8	46	39	-	16
9.19	39.5	50.7	55.8	0.1	0.9	0.1	clean SAND to silty SAND	125	5.0	10	8	45	38	-	16
9.35	35.9	45.7	51.8	0.1	0.9	0.1	clean SAND to silty SAND	125	5.0	9	7	41	38	-	16
9.51	36.5	46.1	52.1	0.1	1.0	0.1	clean SAND to silty SAND	125	5.0	9	7	41	38	-	16
9.68	41.2	51.6	56.5	0.1	1.0	0.1	clean SAND to silty SAND	125	5.0	10	8	45	38	-	16
9.84	44.5	55.2	59.3	0.1	1.0	0.1	clean SAND to silty SAND	125	5.0	11	9	47	39	-	16
10.01	46.2	56.9	60.5	0.1	1.0	0.1	clean SAND to silty SAND	125	5.0	11	9	48	39	-	16
10.17	47.6	58.1	61.8	0.1	1.0	0.1	clean SAND to silty SAND	125	5.0	12	10	49	39	-	16
10.34	52.5	63.6	66.6	0.1	1.0	0.1	clean SAND to silty SAND	125	5.0	13	10	52	39	-	16
10.50	53.9	64.7	67.4	0.1	1.0	0.1	clean SAND to silty SAND	125	5.0	13	11	53	39	-	16
10.66	58.2	69.4	70.2	0.1	1.1	0.1	clean SAND to silty SAND	125	5.0	14	12	55	40	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(489).cpt
CPT Date: 10/12/2006 12:32:41 PM
GW During Test: 1.5 ft

Page: 2
Sounding ID: CPT-04
Project No: 206954001
Cone/Rig: DSA0408

Depth	qc	qc1n	q1ncs	Slv	pore	Frct	Material				Unit	Qc	SPT	SPT	Rel	Ftn	Und	Nk	
ft	PS	PS	PS	Stss	prss	Rato	Behavior				Wght	to	R-N1	R-N	Den	Ang	Shr	-	
	tsf	-	-	tsf	(psi)	%	Description				pcf	N	60%	60%	%	deg	tsf	-	
10.83	61.6	72.9	73.0	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	15	12	57	40	-	16
10.99	62.0	72.8	73.4	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	15	12	57	40	-	16
11.16	62.3	72.7	72.4	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	15	12	56	40	-	16
11.32	64.6	74.8	74.8	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	15	13	57	40	-	16
11.48	66.1	75.9	75.8	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	15	13	58	40	-	16
11.65	67.4	77.2	77.2	0.1	1.1	0.2	clean	SAND	to	silty	SAND	125	5.0	15	13	58	40	-	16
11.81	70.7	80.7	80.7	0.1	1.1	0.2	clean	SAND	to	silty	SAND	125	5.0	16	14	60	40	-	16
11.98	75.1	85.3	85.3	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	17	15	62	41	-	16
12.14	80.3	91.0	91.0	0.1	1.1	0.2	clean	SAND	to	silty	SAND	125	5.0	18	16	64	41	-	16
12.30	84.0	94.9	94.9	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	19	17	65	41	-	16
12.47	88.4	99.5	99.5	0.1	1.1	0.1	clean	SAND	to	silty	SAND	125	5.0	20	18	67	41	-	16
12.63	94.1	105.5	105.5	0.2	1.1	0.2	clean	SAND	to	silty	SAND	125	5.0	21	19	69	42	-	16
12.80	97.6	109.1	109.1	0.2	1.1	0.2	clean	SAND	to	silty	SAND	125	5.0	22	20	70	42	-	16
12.96	101.6	113.2	113.2	0.3	1.1	0.3	clean	SAND	to	silty	SAND	125	5.0	23	20	71	42	-	16
13.12	103.6	115.0	115.0	0.4	1.1	0.3	clean	SAND	to	silty	SAND	125	5.0	23	21	72	42	-	16
13.29	104.6	115.7	115.9	0.4	1.1	0.4	clean	SAND	to	silty	SAND	125	5.0	23	21	72	42	-	16
13.45	103.7	114.3	114.0	0.4	1.1	0.4	clean	SAND	to	silty	SAND	125	5.0	23	21	71	42	-	16
13.62	100.8	110.8	110.8	0.4	1.1	0.4	clean	SAND	to	silty	SAND	125	5.0	22	20	70	42	-	16
13.78	100.9	110.5	110.3	0.4	1.2	0.4	clean	SAND	to	silty	SAND	125	5.0	22	20	70	42	-	16
13.94	102.3	111.7	111.7	0.4	1.3	0.3	clean	SAND	to	silty	SAND	125	5.0	22	20	71	42	-	16
14.11	98.7	107.4	107.4	0.3	1.3	0.3	clean	SAND	to	silty	SAND	125	5.0	21	20	69	42	-	16
14.27	101.2	109.8	109.8	0.2	1.4	0.2	clean	SAND	to	silty	SAND	125	5.0	22	20	70	42	-	16
14.44	113.4	122.6	122.6	0.3	1.4	0.2	clean	SAND	to	silty	SAND	125	5.0	25	23	74	42	-	16
14.60	129.2	139.3	139.3	0.4	1.5	0.3	clean	SAND	to	silty	SAND	125	5.0	28	26	78	43	-	16
14.76	138.5	148.8	148.8	0.5	1.4	0.4	clean	SAND	to	silty	SAND	125	5.0	30	28	80	43	-	16
14.93	137.3	147.1	147.1	0.6	1.5	0.5	clean	SAND	to	silty	SAND	125	5.0	29	27	80	43	-	16
15.09	135.4	144.6	144.6	0.7	1.7	0.5	clean	SAND	to	silty	SAND	125	5.0	29	27	79	43	-	16
15.26	134.8	143.5	144.6	0.8	1.9	0.6	clean	SAND	to	silty	SAND	125	5.0	29	27	79	43	-	16
15.42	137.8	146.3	149.4	0.9	2.1	0.7	clean	SAND	to	silty	SAND	125	5.0	29	28	80	43	-	16
15.58	137.1	145.0	150.2	1.0	2.2	0.7	clean	SAND	to	silty	SAND	125	5.0	29	27	79	43	-	16
15.75	136.3	143.8	149.0	1.0	2.2	0.7	clean	SAND	to	silty	SAND	125	5.0	29	27	79	43	-	16
15.91	138.9	146.1	153.7	1.1	2.3	0.8	clean	SAND	to	silty	SAND	125	5.0	29	28	80	43	-	16
16.08	144.6	151.6	160.4	1.2	2.5	0.9	clean	SAND	to	silty	SAND	125	5.0	30	29	81	43	-	16
16.24	151.4	158.3	165.4	1.3	2.5	0.8	clean	SAND	to	silty	SAND	125	5.0	32	30	82	43	-	16
16.40	158.5	165.2	167.6	1.2	2.6	0.8	clean	SAND	to	silty	SAND	125	5.0	33	32	84	44	-	16
16.57	169.0	175.6	175.6	1.2	2.7	0.7	clean	SAND	to	silty	SAND	125	5.0	35	34	86	44	-	16
16.73	176.6	183.0	183.0	1.2	2.7	0.7	clean	SAND	to	silty	SAND	125	5.0	37	35	87	44	-	16
16.90	173.0	178.7	178.7	1.2	2.8	0.7	clean	SAND	to	silty	SAND	125	5.0	36	35	86	44	-	16
17.06	172.3	177.5	176.9	1.3	2.8	0.7	clean	SAND	to	silty	SAND	125	5.0	36	34	86	44	-	16
17.23	180.8	185.7	188.2	1.5	2.8	0.8	clean	SAND	to	silty	SAND	125	5.0	37	36	87	44	-	16
17.39	199.2	204.0	207.8	1.9	2.8	1.0	clean	SAND	to	silty	SAND	125	5.0	41	40	91	45	-	16
17.55	210.0	214.5	219.6	2.1	2.9	1.0	clean	SAND	to	silty	SAND	125	5.0	43	42	92	45	-	16
17.72	222.1	226.2	230.2	2.3	2.9	1.1	clean	SAND	to	silty	SAND	125	5.0	45	44	94	45	-	16
17.88	232.4	236.0	240.7	2.5	3.0	1.1	clean	SAND	to	silty	SAND	125	5.0	47	46	95	45	-	16
18.05	235.8	238.8	244.8	2.7	3.1	1.1	clean	SAND	to	silty	SAND	125	5.0	48	47	95	45	-	16
18.21	240.0	242.4	254.3	3.1	3.1	1.3	clean	SAND	to	silty	SAND	125	5.0	48	48	95	45	-	16
18.37	244.8	246.5	246.5	2.3	3.1	0.9	clean	SAND	to	silty	SAND	125	5.0	49	49	95	45	-	16
18.54	219.9	220.9	230.1	2.5	3.1	1.1	clean	SAND	to	silty	SAND	125	5.0	44	44	93	45	-	16
18.70	236.4	236.8	241.4	2.6	2.5	1.1	clean	SAND	to	silty	SAND	125	5.0	47	47	95	45	-	16
18.87	242.8	242.6	249.1	2.8	2.8	1.2	clean	SAND	to	silty	SAND	125	5.0	49	49	95	45	-	16
19.03	258.3	257.3	262.2	3.0	3.0	1.2	clean	SAND	to	silty	SAND	125	5.0	51	52	95	45	-	16
19.19	288.7	286.8	286.8	3.3	3.2	1.1	clean	SAND	to	silty	SAND	125	5.0	57	58	95	46	-	16
19.36	321.6	318.7	318.7	3.5	3.3	1.1	clean	SAND	to	silty	SAND	125	5.0	64	64	95	46	-	16
19.52	355.0	350.8	350.8	3.7	3.4	1.0	clean	SAND	to	silty	SAND	125	5.0	70	71	95	47	-	16
19.69	360.9	355.7	355.7	3.6	2.8	1.0	clean	SAND	to	silty	SAND	125	5.0	71	72	95	47	-	16
19.85	369.4	363.1	363.1	3.7	2.4	1.0	clean	SAND	to	silty	SAND	125	5.0	73	74	95	47	-	16
20.01	384.7	377.2	377.2	3.8	2.7	1.0	clean	SAND	to	silty	SAND	125	5.0	75	77	95	47	-	16
20.18	405.6	396.7	396.7	4.4	3.1	1.1	clean	SAND	to	silty	SAND	125	5.0	79	81	95	47	-	16
20.34	425.8	415.3	415.3	5.1	3.5	1.2	clean	SAND	to	silty	SAND	125	5.0	83	85	95	47	-	16
20.51	444.4	432.3	432.3	6.1	3.8	1.4	clean	SAND	to	silty	SAND	125	5.0	86	89	95	48	-	16
20.67	458.9	445.3	445.3	6.9	4.1	1.5	clean	SAND	to	silty	SAND	125	5.0	89	92	95	48	-	16
20.83	472.8	457.6	457.6	6.8	4.4	1.4	clean	SAND	to	silty	SAND	125	5.0	92	95	95	48	-	16
21.00	520.6	502.6	502.6	6.8	4.6	1.3	clean	SAND	to	silty	SAND	125	5.0	100	100	95	48	-	16
21.16	499.4	480.9	480.9	6.2	4.5	1.2	clean	SAND	to	silty	SAND	125	5.0	96	100	95	48	-	16
21.33	480.1	461.2	461.2	4.9	3.6	1.0	clean	SAND	to	silty	SAND	125	5.0	92	96	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

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Project ID: Ninyo & Moore
Data File: SDF(489).cpt
CPT Date: 10/12/2006 12:32:41 PM
GW During Test: 1.5 ft

Page: 3
Sounding ID: CPT-04
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Rato %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
21.49	445.3	426.7	426.7	3.9	1.6	0.9	clean SAND to silty SAND	125	5.0	85	89	95	48	-	16
21.65	407.2	389.2	389.2	2.9	0.7	0.7	clean SAND to silty SAND	125	5.0	78	81	95	47	-	16
21.82	397.1	378.6	378.6	2.7	0.6	0.7	clean SAND to silty SAND	125	5.0	76	79	95	47	-	16
21.98	387.6	368.6	368.6	2.0	0.6	0.5	grvly SAND to dense SAND	130	6.0	61	65	95	47	-	16
22.15	394.4	374.1	374.1	1.4	0.5	0.4	grvly SAND to dense SAND	130	6.0	62	66	95	47	-	16
22.31	467.6	442.4	442.4	2.0	0.3	0.4	grvly SAND to dense SAND	130	6.0	74	78	95	48	-	16
22.47	461.2	435.2	435.2	1.6	0.4	0.4	grvly SAND to dense SAND	130	6.0	73	77	95	48	-	16
22.64	431.7	406.2	406.2	1.8	0.5	0.4	grvly SAND to dense SAND	130	6.0	68	72	95	47	-	16
22.80	408.7	383.6	383.6	1.5	0.5	0.4	grvly SAND to dense SAND	130	6.0	64	68	95	47	-	16
22.97	374.0	350.2	350.2	1.7	0.6	0.5	grvly SAND to dense SAND	130	6.0	58	62	95	47	-	16
23.13	351.7	328.4	328.4	1.7	1.9	0.5	grvly SAND to dense SAND	130	6.0	55	59	95	46	-	16
23.30	326.5	304.2	304.2	1.7	3.6	0.5	clean SAND to silty SAND	125	5.0	61	65	95	46	-	16
23.46	330.5	307.1	307.1	1.5	3.7	0.5	grvly SAND to dense SAND	130	6.0	51	55	95	46	-	16
23.62	339.6	314.8	314.8	1.5	3.7	0.4	grvly SAND to dense SAND	130	6.0	52	57	95	46	-	16
23.79	376.9	348.5	348.5	1.5	3.8	0.4	grvly SAND to dense SAND	130	6.0	58	63	95	46	-	16
23.95	391.1	360.7	360.7	1.8	3.7	0.5	grvly SAND to dense SAND	130	6.0	60	65	95	47	-	16
24.12	363.4	334.3	334.3	1.5	3.5	0.4	grvly SAND to dense SAND	130	6.0	56	61	95	46	-	16
24.28	339.3	311.4	311.4	1.6	3.4	0.5	grvly SAND to dense SAND	130	6.0	52	57	95	46	-	16
24.44	353.7	323.8	323.8	1.4	3.4	0.4	grvly SAND to dense SAND	130	6.0	54	59	95	46	-	16
24.61	359.3	328.1	328.1	1.4	3.5	0.4	grvly SAND to dense SAND	130	6.0	55	60	95	46	-	16
24.77	347.2	316.3	316.3	1.9	3.4	0.5	clean SAND to silty SAND	125	5.0	63	69	95	46	-	16
24.94	366.5	333.1	333.1	2.4	3.5	0.7	clean SAND to silty SAND	125	5.0	67	73	95	46	-	16
25.10	419.7	380.6	380.6	2.6	2.6	0.6	clean SAND to silty SAND	125	5.0	76	84	95	47	-	16
25.26	374.0	338.4	338.4	2.5	2.7	0.7	clean SAND to silty SAND	125	5.0	68	75	95	46	-	16
25.43	381.1	344.1	344.1	3.9	2.8	1.0	clean SAND to silty SAND	125	5.0	69	76	95	46	-	16
25.59	430.5	387.8	426.2	9.3	2.8	2.2	clean SAND to silty SAND	125	5.0	78	86	95	47	-	16
25.76	439.2	394.8	415.3	8.0	3.3	1.8	clean SAND to silty SAND	125	5.0	79	88	95	47	-	16
25.92	461.7	414.1	412.8	7.0	3.4	1.5	clean SAND to silty SAND	125	5.0	83	92	95	47	-	16
26.08	578.4	517.6	517.6	0.1	3.3	0.1	grvly SAND to dense SAND	130	6.0	86	96	95	48	-	16
26.25	634.9	566.8	566.8	0.1	4.2	0.1	grvly SAND to dense SAND	130	6.0	94	100	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

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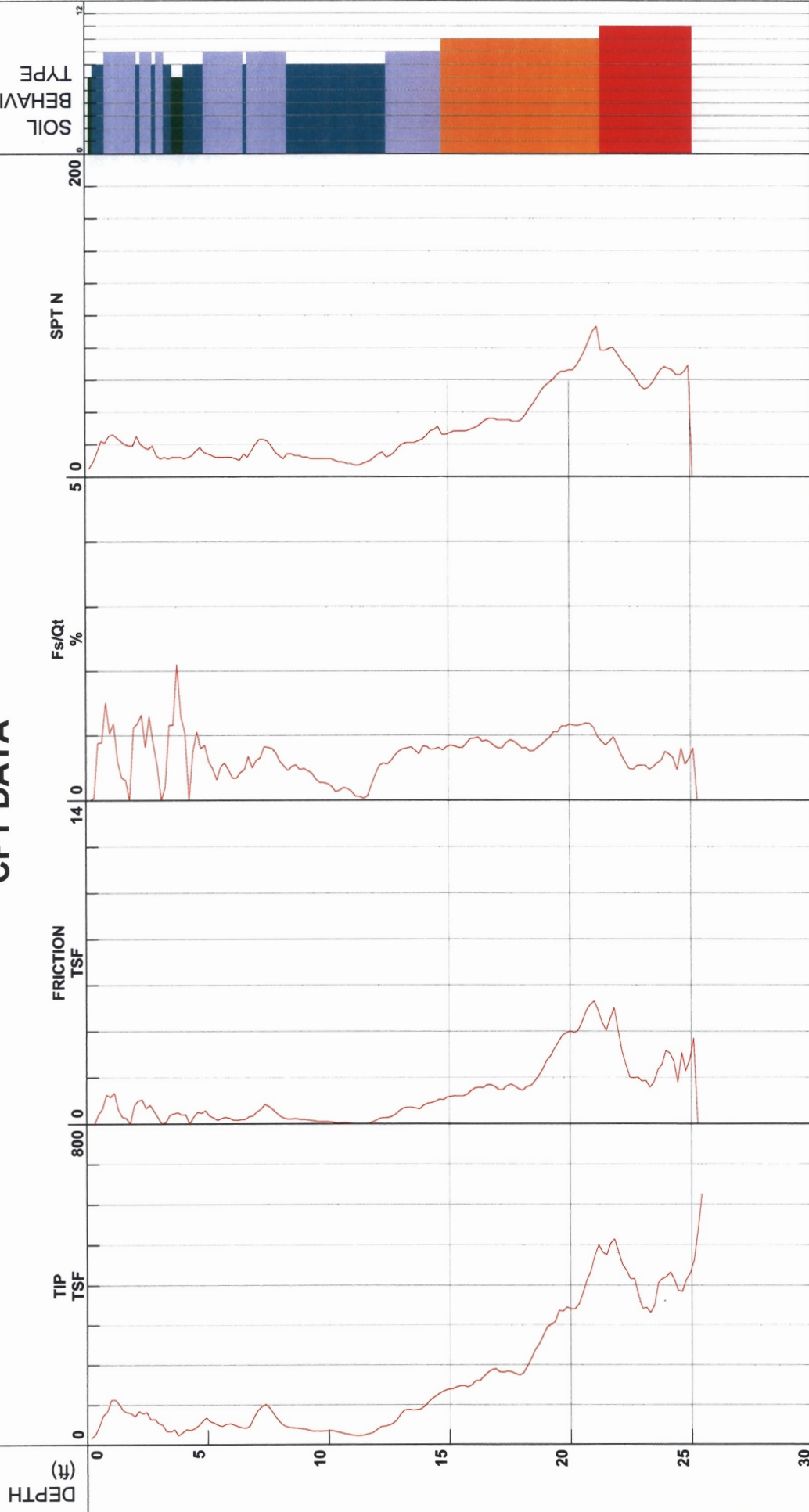


Location
Job Number
Hole Number
Water Table Depth

Operator
Cone Number
Date and Time
11.50 ft

Filename
GPS
Maximum Depth
SDF(488).cpt
25.43 ft

CPT DATA



*Soil behavior type and SPT based on data from UBC-1983

Depth Increment



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

EI Segundo NRG Plant
206954001
CPT-05

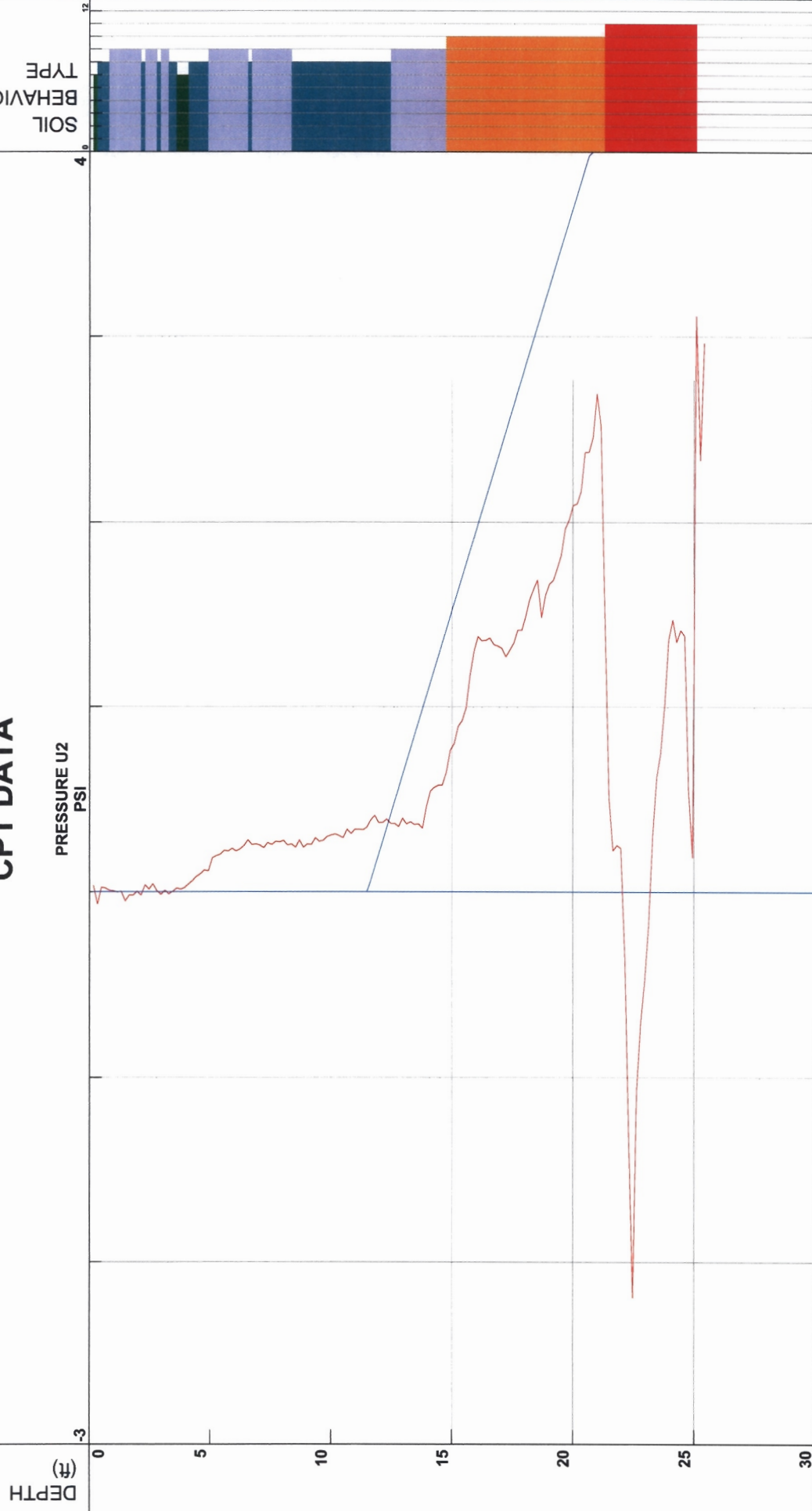
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/12/2006 10:41:48 AM

Filename
GPS
Maximum Depth
25.43 ft

SDF(488).cpt

CPT DATA



*Soil behavior type and SPT based on data from UBC-1983

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Project ID: Ninyo & Moore
Data File: SDF(488).cpt
CPT Date: 10/12/2006 10:41:48 AM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-05
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qcln PS -	* qncs PS -	* Slv Stss tsf	* pore prss (psi)	* Frct Ratio %	* Material Behavior Description	Unit Wght pcf	Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	Und Shr tsf	* Nk -
0.33	25.4	40.7	47.6	0.1	-0.1	0.1	clean SAND to silty SAND	125	5.0	8	5	37	48	-	16
0.49	46.6	74.7	95.0	0.4	0.0	0.9	clean SAND to silty SAND	125	5.0	15	9	57	48	-	16
0.66	73.2	117.4	132.1	0.7	0.0	0.9	clean SAND to silty SAND	125	5.0	23	15	72	48	-	16
0.82	83.3	133.5	164.4	1.3	0.0	1.5	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
0.98	112.4	180.3	190.9	1.2	0.0	1.0	clean SAND to silty SAND	125	5.0	36	22	86	48	-	16
1.15	113.6	182.1	197.9	1.3	0.0	1.2	clean SAND to silty SAND	125	5.0	36	23	87	48	-	16
1.31	102.2	163.9	163.9	0.6	0.0	0.6	clean SAND to silty SAND	125	5.0	33	20	83	48	-	16
1.48	86.6	138.9	138.9	0.3	0.0	0.3	clean SAND to silty SAND	125	5.0	28	17	78	48	-	16
1.64	81.7	131.1	131.1	0.3	0.0	0.3	clean SAND to silty SAND	125	5.0	26	16	76	48	-	16
1.80	79.5	127.5	127.5	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	26	16	75	48	-	16
1.97	71.0	113.9	135.4	0.8	0.0	1.1	clean SAND to silty SAND	125	5.0	23	14	71	48	-	16
2.13	84.0	134.7	155.7	1.0	0.0	1.2	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
2.30	78.8	126.3	152.2	1.0	0.0	1.3	clean SAND to silty SAND	125	5.0	25	16	75	48	-	16
2.46	81.6	130.8	141.7	0.7	0.0	0.8	clean SAND to silty SAND	125	5.0	26	16	76	48	-	16
2.62	62.9	100.9	128.9	0.8	0.0	1.3	clean SAND to silty SAND	125	5.0	20	13	67	47	-	16
2.79	64.1	102.8	119.2	0.6	0.0	0.9	clean SAND to silty SAND	125	5.0	21	13	68	47	-	16
2.95	53.7	86.2	95.5	0.3	0.0	0.5	clean SAND to silty SAND	125	5.0	17	11	62	46	-	16
3.12	49.4	79.3	79.3	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	16	10	59	45	-	16
3.28	33.3	53.5	60.2	0.1	0.0	0.2	clean SAND to silty SAND	125	5.0	11	7	46	43	-	16
3.45	33.0	52.9	84.7	0.4	0.0	1.2	silty SAND to sandy SILT	120	4.0	13	8	46	43	-	16
3.61	37.9	60.9	91.2	0.4	0.0	1.2	silty SAND to sandy SILT	120	4.0	15	9	51	43	-	16
3.77	23.1	37.1	94.6	0.5	0.0	2.1	silty SAND to sandy SILT	120	4.0	9	6	34	40	-	16
3.94	30.3	48.5	84.9	0.4	0.0	1.3	silty SAND to sandy SILT	120	4.0	12	8	43	42	-	16
4.10	38.3	61.4	88.6	0.4	0.0	1.1	silty SAND to sandy SILT	120	4.0	15	10	51	43	-	16
4.27	36.1	57.9	61.3	0.1	0.1	0.1	clean SAND to silty SAND	125	5.0	12	7	49	42	-	16
4.43	40.3	64.6	83.3	0.3	0.1	0.8	clean SAND to silty SAND	125	5.0	13	8	53	43	-	16
4.59	47.8	76.6	101.7	0.5	0.1	1.1	clean SAND to silty SAND	125	5.0	15	10	58	43	-	16
4.76	57.9	92.9	108.5	0.5	0.1	0.8	clean SAND to silty SAND	125	5.0	19	12	65	44	-	16
4.92	67.4	108.2	123.2	0.6	0.1	0.9	clean SAND to silty SAND	125	5.0	22	13	70	45	-	16
5.09	58.0	93.0	103.2	0.3	0.2	0.6	clean SAND to silty SAND	125	5.0	19	12	65	44	-	16
5.25	54.8	87.9	96.1	0.3	0.2	0.5	clean SAND to silty SAND	125	5.0	18	11	63	43	-	16
5.41	49.1	78.7	83.5	0.2	0.2	0.3	clean SAND to silty SAND	125	5.0	16	10	59	42	-	16
5.58	46.1	74.0	85.2	0.2	0.2	0.5	clean SAND to silty SAND	125	5.0	15	9	57	42	-	16
5.74	51.2	82.2	93.5	0.3	0.2	0.6	clean SAND to silty SAND	125	5.0	16	10	61	42	-	16
5.91	53.1	85.2	93.4	0.3	0.2	0.5	clean SAND to silty SAND	125	5.0	17	11	62	42	-	16
6.07	49.5	78.4	84.0	0.2	0.2	0.3	clean SAND to silty SAND	125	5.0	16	10	59	42	-	16
6.23	45.8	71.5	78.5	0.2	0.2	0.3	clean SAND to silty SAND	125	5.0	14	9	56	41	-	16
6.40	42.6	65.6	76.0	0.2	0.2	0.4	clean SAND to silty SAND	125	5.0	13	9	53	41	-	16
6.56	41.5	63.2	75.1	0.2	0.3	0.5	clean SAND to silty SAND	125	5.0	13	8	52	41	-	16
6.73	46.7	70.2	86.3	0.3	0.3	0.7	clean SAND to silty SAND	125	5.0	14	9	55	41	-	16
6.89	67.7	100.5	106.7	0.3	0.3	0.5	clean SAND to silty SAND	125	5.0	20	14	67	43	-	16
7.05	85.9	126.1	131.3	0.5	0.3	0.6	clean SAND to silty SAND	125	5.0	25	17	75	44	-	16
7.22	95.5	138.5	142.6	0.6	0.2	0.7	clean SAND to silty SAND	125	5.0	28	19	78	44	-	16
7.38	101.5	145.6	154.6	0.8	0.3	0.8	clean SAND to silty SAND	125	5.0	29	20	79	45	-	16
7.55	92.5	131.2	142.0	0.8	0.3	0.8	clean SAND to silty SAND	125	5.0	26	19	76	44	-	16
7.71	77.6	108.8	122.4	0.6	0.3	0.8	clean SAND to silty SAND	125	5.0	22	16	70	43	-	16
7.87	63.5	88.2	102.7	0.5	0.3	0.7	clean SAND to silty SAND	125	5.0	18	13	63	42	-	16
8.04	52.6	72.3	86.0	0.3	0.3	0.6	clean SAND to silty SAND	125	5.0	14	11	56	41	-	16
8.20	46.3	63.0	76.5	0.2	0.3	0.5	clean SAND to silty SAND	125	5.0	13	9	52	40	-	16
8.37	43.4	58.4	70.8	0.2	0.3	0.5	clean SAND to silty SAND	125	5.0	12	9	49	40	-	16
8.53	42.2	56.3	70.9	0.2	0.2	0.5	clean SAND to silty SAND	125	5.0	11	8	48	39	-	16
8.69	41.5	54.9	70.3	0.2	0.3	0.6	clean SAND to silty SAND	125	5.0	11	8	47	39	-	16
8.86	40.4	52.8	66.8	0.2	0.2	0.5	clean SAND to silty SAND	125	5.0	11	8	46	39	-	16
9.02	39.1	50.7	65.6	0.2	0.3	0.5	clean SAND to silty SAND	125	5.0	10	8	45	39	-	16
9.19	36.1	46.4	61.2	0.2	0.3	0.5	clean SAND to silty SAND	125	5.0	9	7	42	38	-	16
9.35	33.9	43.2	57.9	0.1	0.3	0.4	clean SAND to silty SAND	125	5.0	9	7	39	37	-	16
9.51	34.2	43.2	55.4	0.1	0.3	0.3	clean SAND to silty SAND	125	5.0	9	7	39	37	-	16
9.68	33.6	42.0	53.0	0.1	0.3	0.3	clean SAND to silty SAND	125	5.0	8	7	38	37	-	16
9.84	34.3	42.6	53.4	0.1	0.3	0.3	clean SAND to silty SAND	125	5.0	9	7	39	37	-	16
10.01	35.6	43.9	53.9	0.1	0.3	0.3	clean SAND to silty SAND	125	5.0	9	7	40	37	-	16
10.17	34.9	42.7	52.0	0.1	0.3	0.2	clean SAND to silty SAND	125	5.0	9	7	39	37	-	16
10.34	32.0	38.7	46.8	0.1	0.3	0.1	clean SAND to silty SAND	125	5.0	8	6	36	37	-	16
10.50	29.9	36.0	45.3	0.1	0.3	0.2	clean SAND to silty SAND	125	5.0	7	6	33	36	-	16
10.66	27.0	32.2	43.7	0.1	0.3	0.2	clean SAND to silty SAND	125	5.0	6	5	30	35	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

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Project ID: Ninyo & Moore
Data File: SDF(488).cpt
CPT Date: 10/12/2006 10:41:48 AM
GW During Test: 1.5 ft

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Sounding ID: CPT-05
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
10.83	25.4	30.0	41.6	0.1	0.3	0.2	clean SAND to silty SAND	125	5.0	6	5	27	35	-	16
10.99	23.5	27.6	38.9	0.1	0.3	0.1	silty SAND to sandy SILT	120	4.0	7	6	25	34	-	16
11.16	22.5	26.2	37.3	0.1	0.3	0.1	silty SAND to sandy SILT	120	4.0	7	6	23	34	-	16
11.32	22.8	26.3	37.4	0.1	0.3	0.1	silty SAND to sandy SILT	120	4.0	7	6	23	34	-	16
11.48	24.4	28.0	38.5	0.1	0.4	0.1	silty SAND to sandy SILT	120	4.0	7	6	25	34	-	16
11.65	27.0	31.0	40.6	0.1	0.4	0.1	clean SAND to silty SAND	125	5.0	6	5	28	35	-	16
11.81	29.8	34.0	46.1	0.1	0.4	0.2	clean SAND to silty SAND	125	5.0	7	6	31	35	-	16
11.98	37.5	42.7	57.0	0.1	0.4	0.4	clean SAND to silty SAND	125	5.0	9	7	39	37	-	16
12.14	44.6	50.6	66.9	0.2	0.4	0.5	clean SAND to silty SAND	125	5.0	10	9	45	38	-	16
12.30	46.3	52.4	69.1	0.3	0.4	0.6	clean SAND to silty SAND	125	5.0	10	9	46	38	-	16
12.47	48.8	54.9	70.7	0.3	0.4	0.6	clean SAND to silty SAND	125	5.0	11	10	47	38	-	16
12.63	52.8	59.3	75.7	0.3	0.4	0.6	clean SAND to silty SAND	125	5.0	12	11	50	39	-	16
12.80	61.4	68.6	85.6	0.4	0.4	0.7	clean SAND to silty SAND	125	5.0	14	12	55	39	-	16
12.96	76.5	85.3	101.2	0.6	0.4	0.8	clean SAND to silty SAND	125	5.0	17	15	62	41	-	16
13.12	86.7	96.3	111.5	0.7	0.4	0.8	clean SAND to silty SAND	125	5.0	19	17	66	41	-	16
13.29	88.6	98.1	113.4	0.7	0.4	0.8	clean SAND to silty SAND	125	5.0	20	18	66	41	-	16
13.45	86.6	95.6	111.7	0.7	0.4	0.8	clean SAND to silty SAND	125	5.0	19	17	66	41	-	16
13.62	87.1	95.7	110.7	0.7	0.4	0.8	clean SAND to silty SAND	125	5.0	19	17	66	41	-	16
13.78	89.3	97.9	110.8	0.6	0.3	0.7	clean SAND to silty SAND	125	5.0	20	18	66	41	-	16
13.94	96.0	104.9	120.0	0.8	0.5	0.8	clean SAND to silty SAND	125	5.0	21	19	69	42	-	16
14.11	106.4	115.9	129.4	0.9	0.5	0.8	clean SAND to silty SAND	125	5.0	23	21	72	42	-	16
14.27	116.1	126.0	136.6	0.9	0.6	0.8	clean SAND to silty SAND	125	5.0	25	23	75	42	-	16
14.44	123.1	133.2	143.0	1.0	0.6	0.8	clean SAND to silty SAND	125	5.0	27	25	76	43	-	16
14.60	130.3	140.6	150.0	1.1	0.6	0.8	clean SAND to silty SAND	125	5.0	28	26	78	43	-	16
14.76	135.6	145.8	152.8	1.0	0.6	0.8	clean SAND to silty SAND	125	5.0	29	27	79	43	-	16
14.93	139.3	149.3	157.8	1.1	0.8	0.8	clean SAND to silty SAND	125	5.0	30	28	80	43	-	16
15.09	140.0	149.6	158.7	1.2	0.8	0.9	clean SAND to silty SAND	125	5.0	30	28	80	43	-	16
15.26	144.7	154.2	162.1	1.2	0.9	0.8	clean SAND to silty SAND	125	5.0	31	29	81	43	-	16
15.42	147.6	156.8	163.5	1.2	0.9	0.8	clean SAND to silty SAND	125	5.0	31	30	82	43	-	16
15.58	148.5	157.2	163.6	1.2	1.0	0.8	clean SAND to silty SAND	125	5.0	31	30	82	43	-	16
15.75	145.0	153.0	162.6	1.3	1.2	0.9	clean SAND to silty SAND	125	5.0	31	29	81	43	-	16
15.91	150.7	158.6	169.9	1.4	1.3	1.0	clean SAND to silty SAND	125	5.0	32	30	82	43	-	16
16.08	161.0	168.9	178.8	1.5	1.4	1.0	clean SAND to silty SAND	125	5.0	34	32	84	44	-	16
16.24	161.0	168.4	179.0	1.6	1.4	1.0	clean SAND to silty SAND	125	5.0	34	32	84	44	-	16
16.40	171.1	178.5	185.0	1.6	1.4	0.9	clean SAND to silty SAND	125	5.0	36	34	86	44	-	16
16.57	181.0	188.2	193.8	1.7	1.4	0.9	clean SAND to silty SAND	125	5.0	38	36	88	44	-	16
16.73	188.2	195.2	197.8	1.7	1.3	0.9	clean SAND to silty SAND	125	5.0	39	38	89	44	-	16
16.90	190.6	197.0	196.7	1.6	1.3	0.8	clean SAND to silty SAND	125	5.0	39	38	89	44	-	16
17.06	182.5	188.1	188.0	1.5	1.3	0.8	clean SAND to silty SAND	125	5.0	38	36	88	44	-	16
17.23	181.5	186.5	187.0	1.5	1.3	0.8	clean SAND to silty SAND	125	5.0	37	36	88	44	-	16
17.39	184.4	189.0	192.6	1.6	1.3	0.9	clean SAND to silty SAND	125	5.0	38	37	88	44	-	16
17.55	182.6	186.6	192.7	1.7	1.3	0.9	clean SAND to silty SAND	125	5.0	37	37	88	44	-	16
17.72	178.0	181.4	187.5	1.6	1.4	0.9	clean SAND to silty SAND	125	5.0	36	36	87	44	-	16
17.88	174.7	177.5	182.1	1.5	1.4	0.9	clean SAND to silty SAND	125	5.0	36	35	86	44	-	16
18.05	179.8	182.2	183.3	1.4	1.5	0.8	clean SAND to silty SAND	125	5.0	36	36	87	44	-	16
18.21	198.1	200.2	200.2	1.6	1.6	0.8	clean SAND to silty SAND	125	5.0	40	40	90	44	-	16
18.37	217.1	218.8	218.8	1.6	1.6	0.8	clean SAND to silty SAND	125	5.0	44	43	93	45	-	16
18.54	239.6	240.8	240.8	1.8	1.7	0.8	clean SAND to silty SAND	125	5.0	48	48	95	45	-	16
18.70	253.2	253.8	253.8	2.1	1.5	0.8	clean SAND to silty SAND	125	5.0	51	51	95	45	-	16
18.87	274.0	273.9	273.9	2.3	1.6	0.9	clean SAND to silty SAND	125	5.0	55	55	95	46	-	16
19.03	295.5	294.5	294.5	2.7	1.7	0.9	clean SAND to silty SAND	125	5.0	59	59	95	46	-	16
19.19	301.7	299.9	299.9	2.9	1.7	1.0	clean SAND to silty SAND	125	5.0	60	60	95	46	-	16
19.36	308.3	305.7	305.7	3.3	1.7	1.1	clean SAND to silty SAND	125	5.0	61	62	95	46	-	16
19.52	336.6	332.9	332.9	3.5	1.8	1.1	clean SAND to silty SAND	125	5.0	67	67	95	47	-	16
19.69	334.4	329.8	329.8	3.8	2.0	1.2	clean SAND to silty SAND	125	5.0	66	67	95	47	-	16
19.85	345.1	339.4	339.4	3.9	2.0	1.1	clean SAND to silty SAND	125	5.0	68	69	95	47	-	16
20.01	340.7	334.3	334.3	4.0	2.1	1.2	clean SAND to silty SAND	125	5.0	67	68	95	47	-	16
20.18	340.6	333.3	333.3	3.9	2.1	1.2	clean SAND to silty SAND	125	5.0	67	68	95	47	-	16
20.34	353.1	344.6	344.6	4.1	2.2	1.2	clean SAND to silty SAND	125	5.0	69	71	95	47	-	16
20.51	379.5	369.4	369.4	4.4	2.4	1.2	clean SAND to silty SAND	125	5.0	74	76	95	47	-	16
20.67	412.2	400.2	400.2	4.9	2.4	1.2	clean SAND to silty SAND	125	5.0	80	82	95	47	-	16
20.83	434.2	420.5	420.5	5.1	2.5	1.2	clean SAND to silty SAND	125	5.0	84	87	95	48	-	16
21.00	473.3	457.2	457.2	5.3	2.7	1.1	clean SAND to silty SAND	125	5.0	91	95	95	48	-	16
21.16	500.1	481.8	481.8	4.9	2.5	1.0	clean SAND to silty SAND	125	5.0	96	100	95	48	-	16
21.33	482.3	463.6	463.6	4.4	1.4	0.9	clean SAND to silty SAND	125	5.0	93	96	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

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Project ID: Ninyo & Moore
Data File: SDF(488).cpt
CPT Date: 10/12/2006 10:41:48 AM
GW During Test: 1.5 ft

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Sounding ID: CPT-05
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qc1n PS -	* q1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Rato %	* Material Behavior Description	Unit Wght pcf	Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	Und Shr tsf	* Nk -
21.49	474.3	454.7	454.7	4.0	0.5	0.9	clean SAND to silty SAND	125	5.0	91	95	95	48	-	16
21.65	503.6	481.6	481.6	4.6	0.2	0.9	clean SAND to silty SAND	125	5.0	96	100	95	48	-	16
21.82	514.3	490.6	490.6	5.0	0.3	1.0	clean SAND to silty SAND	125	5.0	98	100	95	48	-	16
21.98	483.3	459.9	459.9	4.1	0.2	0.8	clean SAND to silty SAND	125	5.0	92	97	95	48	-	16
22.15	450.3	427.5	427.5	3.1	-0.4	0.7	clean SAND to silty SAND	125	5.0	85	90	95	47	-	16
22.31	436.8	413.6	413.6	2.5	-1.3	0.6	grvly SAND to dense SAND	130	6.0	69	73	95	47	-	16
22.47	415.6	392.5	392.5	2.0	-2.2	0.5	grvly SAND to dense SAND	130	6.0	65	69	95	47	-	16
22.64	415.9	391.8	391.8	2.0	-1.1	0.5	grvly SAND to dense SAND	130	6.0	65	69	95	47	-	16
22.80	375.2	352.5	352.5	2.0	-0.7	0.5	grvly SAND to dense SAND	130	6.0	59	63	95	47	-	16
22.97	341.8	320.3	320.3	1.8	-0.5	0.5	clean SAND to silty SAND	125	5.0	64	68	95	46	-	16
23.13	344.5	322.1	322.1	1.9	-0.2	0.5	clean SAND to silty SAND	125	5.0	64	69	95	46	-	16
23.30	331.0	308.7	308.7	1.6	0.3	0.5	grvly SAND to dense SAND	130	6.0	51	55	95	46	-	16
23.46	350.4	326.0	326.0	1.8	0.6	0.5	clean SAND to silty SAND	125	5.0	65	70	95	46	-	16
23.62	405.6	376.4	376.4	2.3	0.7	0.6	grvly SAND to dense SAND	130	6.0	63	68	95	47	-	16
23.79	416.2	385.3	385.3	2.6	1.0	0.6	clean SAND to silty SAND	125	5.0	77	83	95	47	-	16
23.95	421.1	388.9	388.9	3.2	1.4	0.8	clean SAND to silty SAND	125	5.0	78	84	95	47	-	16
24.12	432.2	398.2	398.2	3.1	1.5	0.7	clean SAND to silty SAND	125	5.0	80	86	95	47	-	16
24.28	414.6	381.2	381.2	2.7	1.4	0.7	clean SAND to silty SAND	125	5.0	76	83	95	47	-	16
24.44	386.2	354.3	354.3	1.8	1.4	0.5	grvly SAND to dense SAND	130	6.0	59	64	95	47	-	16
24.61	384.1	351.4	351.4	3.1	1.4	0.8	clean SAND to silty SAND	125	5.0	70	77	95	46	-	16
24.77	413.4	377.4	377.4	2.3	0.6	0.6	grvly SAND to dense SAND	130	6.0	63	69	95	47	-	16
24.94	430.1	391.7	391.7	2.8	0.2	0.6	clean SAND to silty SAND	125	5.0	78	86	95	47	-	16
25.10	462.1	419.9	419.9	3.7	3.1	0.8	clean SAND to silty SAND	125	5.0	84	92	95	47	-	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

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Location
Job Number
Hole Number
Water Table Depth

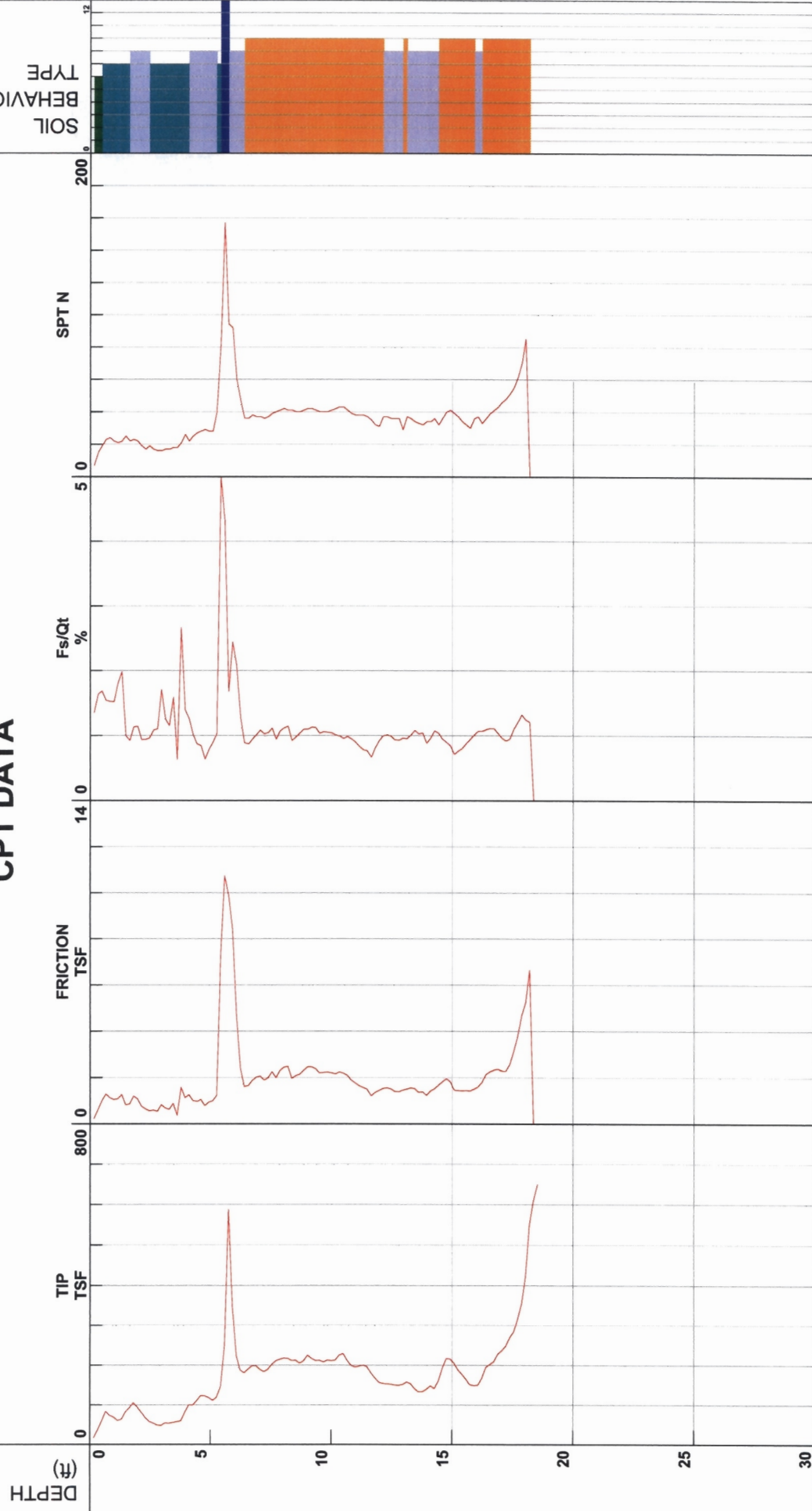
El Segundo NRG Plant
206954001
CPT-06

Operator
Cone Number
Date and Time
Maximum Depth

ML-CW
DSA0408
10/12/2006 1:41:34 PM
11.50 ft

SDF(490).cpt
GPS
18.54 ft

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-06

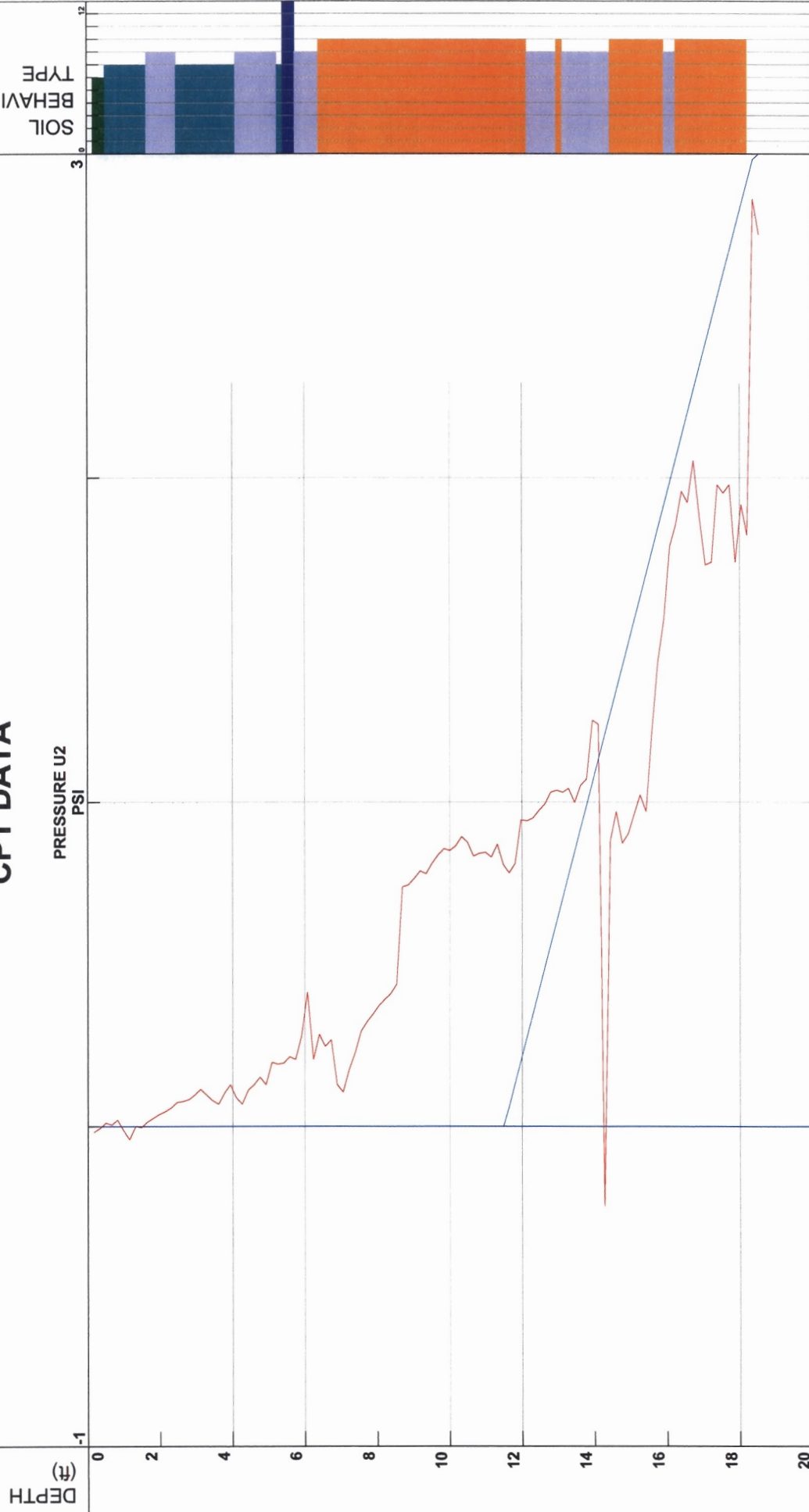
Operator
Cone Number
Date and Time
11:50 ft

ML-CW
DSA0408
10/12/2006 1:41:34 PM

Filename
GPS
Maximum Depth

SDF(490).cpt
18.54 ft

CPT DATA



*Soil behavior type and SPT based on data from UBC-1983

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Project ID: Ninyo & Moore
Data File: SDF(490).cpt
CPT Date: 10/12/2006 1:41:34 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-06
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qc1n PS -	* q1ncs PS -	* Slv tsf	* pore prss (psi)	* Frct Ratio %	* Material Behavior Description	* Unit Wght pcf	* Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	* Und Shr tsf	* Nk -
0.33	37.7	60.4	103.2	0.6	0.0	1.6	silty SAND to sandy SILT	120	4.0	15	9	50	48	-	16
0.49	59.3	95.1	134.8	1.0	0.0	1.7	silty SAND to sandy SILT	120	4.0	24	15	65	48	-	16
0.66	83.4	133.8	165.4	1.3	0.0	1.5	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
0.82	73.7	118.2	150.8	1.1	0.0	1.5	clean SAND to silty SAND	125	5.0	24	15	73	48	-	16
0.98	68.9	110.5	143.8	1.0	0.0	1.5	clean SAND to silty SAND	125	5.0	22	14	70	48	-	16
1.15	60.4	96.9	139.9	1.1	0.0	1.8	silty SAND to sandy SILT	120	4.0	24	15	66	48	-	16
1.31	64.1	102.7	150.4	1.3	0.0	2.0	silty SAND to sandy SILT	120	4.0	26	16	68	48	-	16
1.48	82.2	131.9	147.8	0.8	0.0	1.0	clean SAND to silty SAND	125	5.0	26	16	76	48	-	16
1.64	92.6	148.6	160.2	0.9	0.0	0.9	clean SAND to silty SAND	125	5.0	30	19	80	48	-	16
1.80	105.4	169.0	184.7	1.2	0.0	1.1	clean SAND to silty SAND	125	5.0	34	21	84	48	-	16
1.97	94.1	150.9	168.9	1.1	0.0	1.1	clean SAND to silty SAND	125	5.0	30	19	81	48	-	16
2.13	81.4	130.5	144.9	0.8	0.0	0.9	clean SAND to silty SAND	125	5.0	26	16	76	48	-	16
2.30	67.8	108.8	126.1	0.6	0.1	0.9	clean SAND to silty SAND	125	5.0	22	14	70	48	-	16
2.46	58.1	93.2	113.1	0.6	0.1	1.0	clean SAND to silty SAND	125	5.0	19	12	65	47	-	16
2.62	54.1	86.8	110.9	0.6	0.1	1.1	clean SAND to silty SAND	125	5.0	17	11	62	46	-	16
2.79	48.9	78.5	104.2	0.5	0.1	1.1	clean SAND to silty SAND	125	5.0	16	10	59	46	-	16
2.95	48.1	77.1	119.9	0.8	0.1	1.7	silty SAND to sandy SILT	120	4.0	19	12	58	45	-	16
3.12	54.4	87.2	115.9	0.7	0.1	1.3	clean SAND to silty SAND	125	5.0	17	11	62	46	-	16
3.28	53.6	85.9	112.0	0.6	0.1	1.2	clean SAND to silty SAND	125	5.0	17	11	62	45	-	16
3.45	55.6	89.1	127.1	0.9	0.1	1.6	silty SAND to sandy SILT	120	4.0	22	14	63	45	-	16
3.61	57.8	92.7	103.8	0.4	0.1	0.6	clean SAND to silty SAND	125	5.0	19	12	64	45	-	16
3.77	59.4	95.3	164.3	1.6	0.1	2.7	silty SAND to sandy SILT	120	4.0	24	15	65	45	-	16
3.94	81.1	130.0	157.9	1.1	0.1	1.4	clean SAND to silty SAND	125	5.0	26	16	76	46	-	16
4.10	99.8	160.0	180.8	1.3	0.1	1.3	clean SAND to silty SAND	125	5.0	32	20	83	47	-	16
4.27	99.2	159.2	172.3	1.0	0.1	1.0	clean SAND to silty SAND	125	5.0	32	20	82	47	-	16
4.43	110.6	177.4	182.4	1.0	0.1	0.9	clean SAND to silty SAND	125	5.0	35	22	86	47	-	16
4.59	123.6	198.2	197.8	1.0	0.1	0.8	clean SAND to silty SAND	125	5.0	40	25	90	48	-	16
4.76	122.6	196.7	196.7	0.8	0.2	0.6	clean SAND to silty SAND	125	5.0	39	25	89	47	-	16
4.92	119.1	191.0	191.0	0.9	0.1	0.8	clean SAND to silty SAND	125	5.0	38	24	88	47	-	16
5.09	111.5	178.8	184.6	1.0	0.2	0.9	clean SAND to silty SAND	125	5.0	36	22	86	47	-	16
5.25	119.3	191.4	200.5	1.2	0.2	1.0	clean SAND to silty SAND	125	5.0	38	24	88	47	-	16
5.41	146.7	235.2	400.9	7.4	0.2	5.0	very stiff fine SOIL	120	2.0	100	73	95	48	-	30
5.58	248.1	397.8	545.9	10.7	0.2	4.3	very stiff fine SOIL	120	2.0	100	100	95	48	-	30
5.74	588.6	944.0	944.0	9.9	0.2	1.7	stiff SAND to clayy SAND	115	1.0	100	100	-	-	36.8	16
5.91	345.4	553.9	599.2	8.4	0.3	2.4	stiff SAND to clayy SAND	115	1.0	100	100	-	-	21.6	16
6.07	223.8	356.1	392.1	4.7	0.4	2.1	clean SAND to silty SAND	125	5.0	71	45	95	48	-	16
6.23	187.5	294.2	297.7	2.4	0.2	1.3	clean SAND to silty SAND	125	5.0	59	37	95	48	-	16
6.40	181.3	280.8	280.8	1.6	0.3	0.9	clean SAND to silty SAND	125	5.0	56	36	95	48	-	16
6.56	190.5	291.3	291.3	1.7	0.2	0.9	clean SAND to silty SAND	125	5.0	58	38	95	48	-	16
6.73	198.7	300.0	300.0	1.9	0.3	0.9	clean SAND to silty SAND	125	5.0	60	40	95	48	-	16
6.89	198.5	296.1	296.1	2.0	0.1	1.0	clean SAND to silty SAND	125	5.0	59	40	95	48	-	16
7.05	189.8	279.8	279.8	2.1	0.1	1.1	clean SAND to silty SAND	125	5.0	56	38	95	48	-	16
7.22	184.1	268.2	268.2	1.9	0.2	1.0	clean SAND to silty SAND	125	5.0	54	37	95	47	-	16
7.38	189.9	273.5	273.5	2.0	0.2	1.1	clean SAND to silty SAND	125	5.0	55	38	95	47	-	16
7.55	202.4	288.3	288.3	2.3	0.3	1.1	clean SAND to silty SAND	125	5.0	58	40	95	48	-	16
7.71	211.1	297.4	297.4	2.0	0.3	0.9	clean SAND to silty SAND	125	5.0	59	42	95	48	-	16
7.87	215.2	299.9	299.9	2.3	0.3	1.1	clean SAND to silty SAND	125	5.0	60	43	95	48	-	16
8.04	218.2	301.0	301.0	2.4	0.4	1.1	clean SAND to silty SAND	125	5.0	60	44	95	48	-	16
8.20	217.1	296.3	296.3	2.5	0.4	1.1	clean SAND to silty SAND	125	5.0	59	43	95	47	-	16
8.37	212.0	286.6	286.6	2.0	0.4	0.9	clean SAND to silty SAND	125	5.0	57	42	95	47	-	16
8.53	212.4	284.3	284.3	2.1	0.4	1.0	clean SAND to silty SAND	125	5.0	57	42	95	47	-	16
8.69	205.7	272.7	272.7	2.1	0.7	1.0	clean SAND to silty SAND	125	5.0	55	41	95	47	-	16
8.86	210.8	276.8	276.8	2.3	0.7	1.1	clean SAND to silty SAND	125	5.0	55	42	95	47	-	16
9.02	224.7	292.4	292.4	2.5	0.8	1.1	clean SAND to silty SAND	125	5.0	58	45	95	47	-	16
9.19	217.7	280.6	280.6	2.5	0.8	1.1	clean SAND to silty SAND	125	5.0	56	44	95	47	-	16
9.35	211.8	270.6	270.6	2.4	0.8	1.1	clean SAND to silty SAND	125	5.0	54	42	95	47	-	16
9.51	212.3	268.9	268.9	2.2	0.8	1.0	clean SAND to silty SAND	125	5.0	54	42	95	47	-	16
9.68	208.6	262.0	262.0	2.2	0.8	1.1	clean SAND to silty SAND	125	5.0	52	42	95	47	-	16
9.84	212.8	265.0	265.0	2.2	0.9	1.1	clean SAND to silty SAND	125	5.0	53	43	95	47	-	16
10.01	211.7	261.4	261.4	2.2	0.9	1.0	clean SAND to silty SAND	125	5.0	52	42	95	46	-	16
10.17	212.9	260.7	260.7	2.2	0.9	1.0	clean SAND to silty SAND	125	5.0	52	43	95	46	-	16
10.34	225.5	273.9	273.9	2.2	0.9	1.0	clean SAND to silty SAND	125	5.0	55	45	95	47	-	16
10.50	229.0	275.9	275.9	2.2	0.9	1.0	clean SAND to silty SAND	125	5.0	55	46	95	47	-	16
10.66	212.3	253.8	253.8	2.1	0.8	1.0	clean SAND to silty SAND	125	5.0	51	42	95	46	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.

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Project ID: Ninyo & Moore
Data File: SDF(490).cpt
CPT Date: 10/12/2006 1:41:34 PM
GW During Test: 1.5 ft

Page: 2
Sounding ID: CPT-06
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qcln PS -	* qncs PS -	* Slv tsf	* pore prss (psi)	* Frct Rato %	* Material Behavior Description	* Unit Wght pcf	* Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	* Und Shr tsf	* Nk -
10.83	199.6	236.8	236.8	1.9	0.8	1.0	clean SAND to silty SAND	125	5.0	47	40	95	46	-	16
10.99	195.4	230.1	230.1	1.8	0.8	0.9	clean SAND to silty SAND	125	5.0	46	39	95	46	-	16
11.16	197.7	231.0	231.0	1.6	0.8	0.8	clean SAND to silty SAND	125	5.0	46	40	95	46	-	16
11.32	200.2	232.2	232.2	1.6	0.9	0.8	clean SAND to silty SAND	125	5.0	46	40	95	46	-	16
11.48	196.3	226.1	226.1	1.5	0.8	0.8	clean SAND to silty SAND	125	5.0	45	39	94	46	-	16
11.65	181.0	207.8	207.8	1.2	0.8	0.7	clean SAND to silty SAND	125	5.0	42	36	91	45	-	16
11.81	168.2	192.3	191.7	1.4	0.8	0.8	clean SAND to silty SAND	125	5.0	38	34	89	45	-	16
11.98	157.4	179.4	186.3	1.5	0.9	0.9	clean SAND to silty SAND	125	5.0	36	31	86	44	-	16
12.14	154.5	175.4	185.7	1.5	0.9	1.0	clean SAND to silty SAND	125	5.0	35	31	86	44	-	16
12.30	153.7	173.9	185.2	1.6	1.0	1.0	clean SAND to silty SAND	125	5.0	35	31	85	44	-	16
12.47	152.7	172.2	182.8	1.5	1.0	1.0	clean SAND to silty SAND	125	5.0	34	31	85	44	-	16
12.63	150.1	168.7	177.9	1.4	1.0	0.9	clean SAND to silty SAND	125	5.0	34	30	84	44	-	16
12.80	149.9	167.8	176.9	1.4	1.0	0.9	clean SAND to silty SAND	125	5.0	34	30	84	44	-	16
12.96	152.0	169.6	179.6	1.5	1.0	1.0	clean SAND to silty SAND	125	5.0	34	30	84	44	-	16
13.12	158.1	175.9	184.5	1.5	1.0	1.0	clean SAND to silty SAND	125	5.0	35	32	86	44	-	16
13.29	154.1	170.9	182.4	1.6	1.0	1.0	clean SAND to silty SAND	125	5.0	34	31	85	44	-	16
13.45	141.7	156.6	172.3	1.5	1.0	1.1	clean SAND to silty SAND	125	5.0	31	28	82	44	-	16
13.62	133.2	146.6	162.0	1.4	1.1	1.0	clean SAND to silty SAND	125	5.0	29	27	80	43	-	16
13.78	133.7	146.7	162.5	1.4	1.1	1.0	clean SAND to silty SAND	125	5.0	29	27	80	43	-	16
13.94	140.3	153.5	163.2	1.2	1.3	0.9	clean SAND to silty SAND	125	5.0	31	28	81	43	-	16
14.11	148.4	161.9	173.1	1.4	1.2	1.0	clean SAND to silty SAND	125	5.0	32	30	83	44	-	16
14.27	141.7	154.0	169.9	1.5	-0.2	1.1	clean SAND to silty SAND	125	5.0	31	28	81	43	-	16
14.44	160.9	174.3	186.4	1.7	0.9	1.0	clean SAND to silty SAND	125	5.0	35	32	85	44	-	16
14.60	192.1	207.5	210.4	1.8	1.0	1.0	clean SAND to silty SAND	125	5.0	42	38	91	45	-	16
14.76	217.1	233.8	233.8	2.0	0.9	0.9	clean SAND to silty SAND	125	5.0	47	43	95	45	-	16
14.93	215.9	231.8	231.8	1.8	0.9	0.9	clean SAND to silty SAND	125	5.0	46	43	95	45	-	16
15.09	205.3	219.7	219.7	1.5	1.0	0.7	clean SAND to silty SAND	125	5.0	44	41	93	45	-	16
15.26	188.6	201.2	201.2	1.4	1.0	0.8	clean SAND to silty SAND	125	5.0	40	38	90	45	-	16
15.42	177.9	189.1	189.0	1.4	1.0	0.8	clean SAND to silty SAND	125	5.0	38	36	88	44	-	16
15.58	164.7	174.6	180.7	1.4	1.2	0.9	clean SAND to silty SAND	125	5.0	35	33	85	44	-	16
15.75	151.5	160.1	171.0	1.4	1.4	0.9	clean SAND to silty SAND	125	5.0	32	30	83	44	-	16
15.91	149.5	157.5	171.1	1.5	1.6	1.0	clean SAND to silty SAND	125	5.0	32	30	82	43	-	16
16.08	150.2	157.8	173.1	1.6	1.8	1.1	clean SAND to silty SAND	125	5.0	32	30	82	43	-	16
16.24	168.0	175.9	188.9	1.8	1.9	1.1	clean SAND to silty SAND	125	5.0	35	34	86	44	-	16
16.40	195.3	204.0	213.8	2.1	2.0	1.1	clean SAND to silty SAND	125	5.0	41	39	91	45	-	16
16.57	202.8	211.1	220.6	2.3	1.9	1.1	clean SAND to silty SAND	125	5.0	42	41	92	45	-	16
16.73	209.4	217.4	225.9	2.3	2.1	1.1	clean SAND to silty SAND	125	5.0	43	42	93	45	-	16
16.90	228.1	236.0	237.9	2.4	1.9	1.0	clean SAND to silty SAND	125	5.0	47	46	95	45	-	16
17.06	236.9	244.4	244.4	2.3	1.7	1.0	clean SAND to silty SAND	125	5.0	49	47	95	45	-	16
17.23	247.9	255.1	255.1	2.3	1.7	0.9	clean SAND to silty SAND	125	5.0	51	50	95	46	-	16
17.39	268.9	275.9	275.9	2.6	2.0	1.0	clean SAND to silty SAND	125	5.0	55	54	95	46	-	16
17.55	284.2	290.7	290.7	3.1	2.0	1.1	clean SAND to silty SAND	125	5.0	58	57	95	46	-	16
17.72	315.0	321.3	321.3	3.8	2.0	1.2	clean SAND to silty SAND	125	5.0	64	63	95	47	-	16
17.88	354.9	361.0	361.0	4.7	1.7	1.3	clean SAND to silty SAND	125	5.0	72	71	95	47	-	16
18.05	420.5	426.6	426.6	5.2	1.9	1.2	clean SAND to silty SAND	125	5.0	85	84	95	48	-	16
18.21	550.8	557.3	557.3	6.7	1.8	1.2	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.

Ninyo & Moore



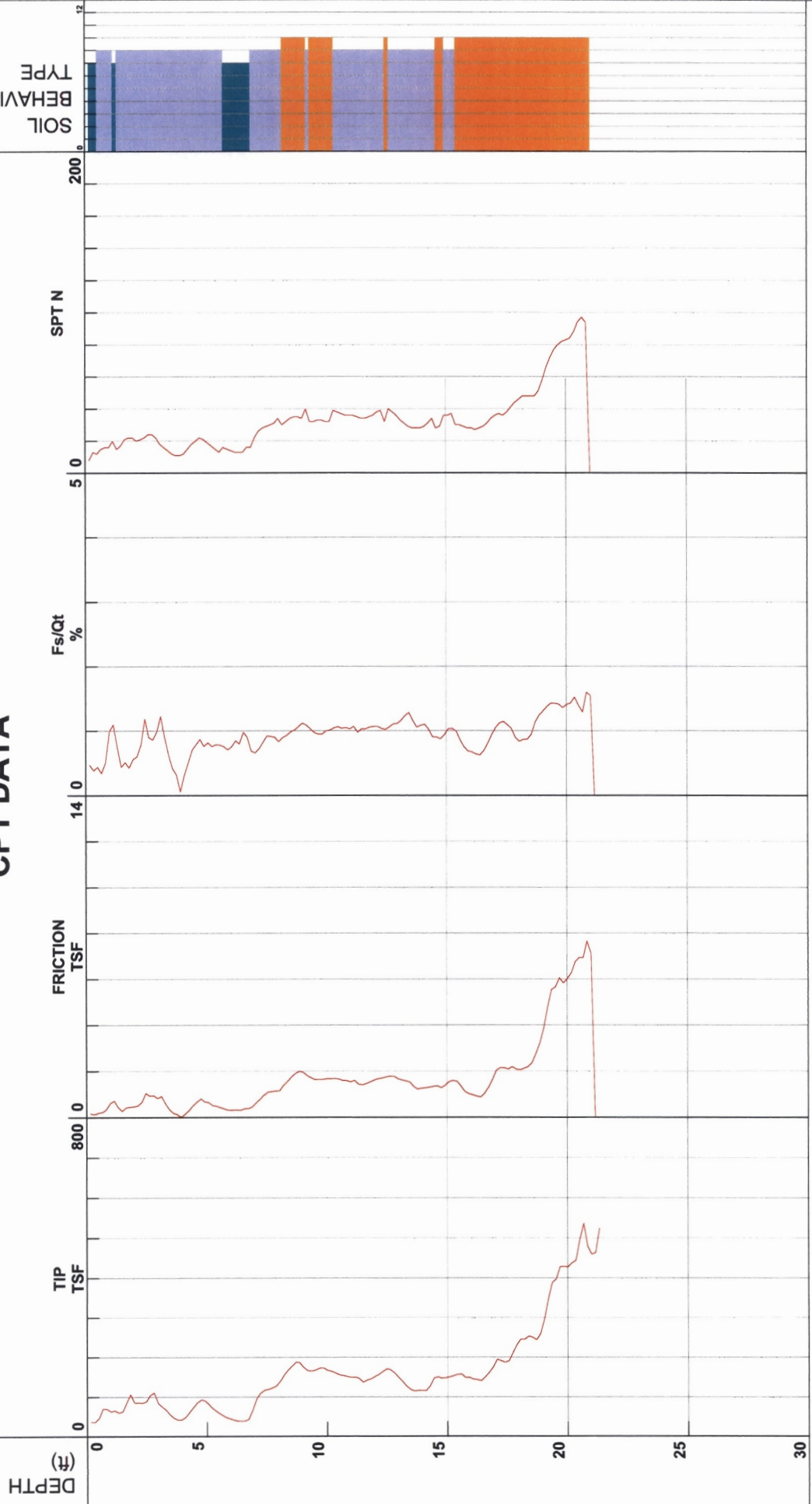
Location
Job Number
Hole Number
Water Table Depth

Operator
Cone Number
Date and Time
11.50 ft

Filename
GPS
Maximum Depth
21.33 ft

SDF(487).cpt

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Depth Increment



Ninyo & Moore

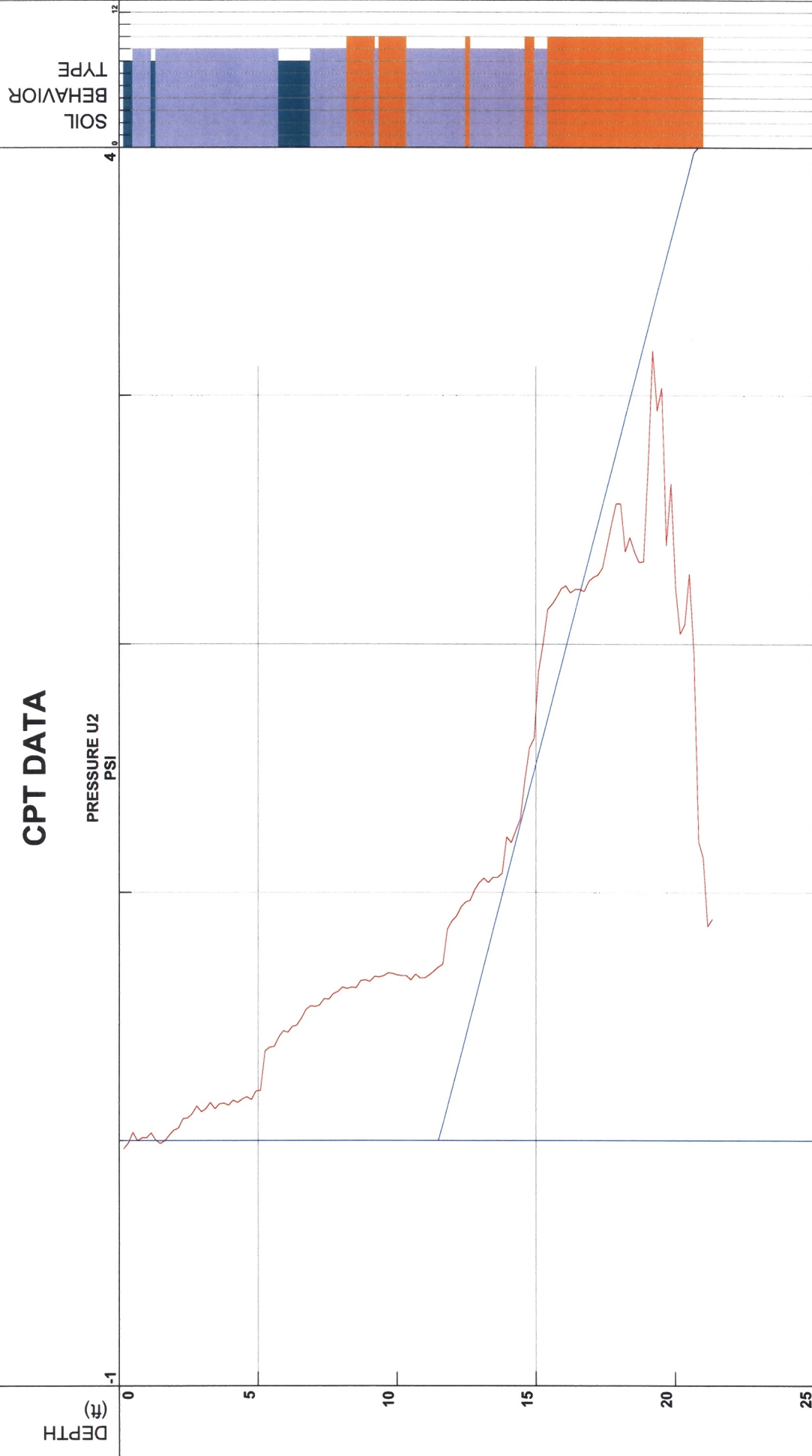
Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-07

Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/12/2006 9:52:54 AM

Filename
GPS
Maximum Depth
21.33 ft



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Depth Increment

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(487).cpt
CPT Date: 10/12/2006 9:52:54 AM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-07
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	qncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	37.0	59.3	69.4	0.1	0.0	0.4	clean SAND to silty SAND	125	5.0	12	7	50	48	-	16
0.49	46.4	74.4	83.4	0.2	0.0	0.4	clean SAND to silty SAND	125	5.0	15	9	57	48	-	16
0.66	70.6	113.2	113.2	0.2	0.0	0.3	clean SAND to silty SAND	125	5.0	23	14	71	48	-	16
0.82	70.0	112.3	116.3	0.4	0.0	0.5	clean SAND to silty SAND	125	5.0	22	14	71	48	-	16
0.98	63.5	101.8	121.3	0.6	0.0	1.0	clean SAND to silty SAND	125	5.0	20	13	68	48	-	16
1.15	65.9	105.6	127.6	0.7	0.0	1.1	clean SAND to silty SAND	125	5.0	21	13	69	48	-	16
1.31	60.2	96.5	110.0	0.4	0.0	0.7	clean SAND to silty SAND	125	5.0	19	12	66	48	-	16
1.48	63.6	102.0	105.9	0.3	0.0	0.4	clean SAND to silty SAND	125	5.0	20	13	68	48	-	16
1.64	85.9	137.8	137.8	0.4	0.0	0.5	clean SAND to silty SAND	125	5.0	28	17	78	48	-	16
1.80	107.4	172.3	172.3	0.5	0.0	0.4	clean SAND to silty SAND	125	5.0	34	21	85	48	-	16
1.97	85.3	136.8	137.3	0.5	0.0	0.6	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
2.13	85.8	137.6	139.7	0.5	0.1	0.6	clean SAND to silty SAND	125	5.0	28	17	78	48	-	16
2.30	85.5	137.0	146.0	0.7	0.1	0.8	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
2.46	88.7	142.2	162.7	1.1	0.1	1.2	clean SAND to silty SAND	125	5.0	28	18	79	48	-	16
2.62	105.1	168.6	176.2	0.9	0.1	0.9	clean SAND to silty SAND	125	5.0	34	21	84	48	-	16
2.79	111.1	178.1	182.6	1.0	0.1	0.9	clean SAND to silty SAND	125	5.0	36	22	86	48	-	16
2.95	84.9	136.1	151.3	0.8	0.1	1.0	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
3.12	75.5	121.0	145.0	0.9	0.1	1.2	clean SAND to silty SAND	125	5.0	24	15	73	47	-	16
3.28	68.1	109.1	125.6	0.6	0.2	0.9	clean SAND to silty SAND	125	5.0	22	14	70	46	-	16
3.45	55.7	89.4	101.0	0.4	0.1	0.6	clean SAND to silty SAND	125	5.0	18	11	63	45	-	16
3.61	47.3	75.8	84.1	0.2	0.1	0.4	clean SAND to silty SAND	125	5.0	15	9	58	44	-	16
3.77	42.4	67.9	75.1	0.1	0.2	0.3	clean SAND to silty SAND	125	5.0	14	8	54	44	-	16
3.94	42.6	68.3	69.0	0.1	0.1	0.1	clean SAND to silty SAND	125	5.0	14	9	54	43	-	16
4.10	49.2	78.9	83.6	0.2	0.2	0.3	clean SAND to silty SAND	125	5.0	16	10	59	44	-	16
4.27	61.8	99.2	105.9	0.3	0.2	0.5	clean SAND to silty SAND	125	5.0	20	12	67	45	-	16
4.43	74.4	119.3	128.4	0.5	0.2	0.7	clean SAND to silty SAND	125	5.0	24	15	73	45	-	16
4.59	86.6	138.8	147.5	0.7	0.2	0.8	clean SAND to silty SAND	125	5.0	28	17	78	46	-	16
4.76	93.4	149.8	159.5	0.8	0.2	0.9	clean SAND to silty SAND	125	5.0	30	19	80	46	-	16
4.92	90.1	144.5	151.4	0.7	0.2	0.8	clean SAND to silty SAND	125	5.0	29	18	79	46	-	16
5.09	80.5	129.1	140.2	0.7	0.2	0.8	clean SAND to silty SAND	125	5.0	26	16	75	45	-	16
5.25	70.3	112.7	124.5	0.5	0.4	0.8	clean SAND to silty SAND	125	5.0	23	14	71	44	-	16
5.41	62.8	100.7	115.0	0.5	0.4	0.8	clean SAND to silty SAND	125	5.0	20	13	67	44	-	16
5.58	55.9	89.7	105.4	0.4	0.4	0.8	clean SAND to silty SAND	125	5.0	18	11	63	43	-	16
5.74	49.9	80.0	96.6	0.4	0.4	0.8	clean SAND to silty SAND	125	5.0	16	10	60	42	-	16
5.91	45.9	73.5	89.9	0.3	0.4	0.7	clean SAND to silty SAND	125	5.0	15	9	57	42	-	16
6.07	42.7	67.4	85.8	0.3	0.4	0.8	clean SAND to silty SAND	125	5.0	13	9	54	41	-	16
6.23	39.8	62.0	83.9	0.3	0.5	0.9	clean SAND to silty SAND	125	5.0	12	8	51	41	-	16
6.40	39.0	59.9	81.1	0.3	0.5	0.8	clean SAND to silty SAND	125	5.0	12	8	50	40	-	16
6.56	39.2	59.6	85.6	0.4	0.5	1.0	silty SAND to sandy SILT	120	4.0	15	10	50	40	-	16
6.73	43.6	65.4	88.3	0.4	0.5	0.9	clean SAND to silty SAND	125	5.0	13	9	53	41	-	16
6.89	66.9	99.1	111.1	0.5	0.5	0.7	clean SAND to silty SAND	125	5.0	20	13	67	43	-	16
7.05	95.6	140.0	144.0	0.6	0.5	0.7	clean SAND to silty SAND	125	5.0	28	19	78	44	-	16
7.22	110.1	159.4	161.8	0.8	0.5	0.7	clean SAND to silty SAND	125	5.0	32	22	82	45	-	16
7.38	117.6	168.4	173.4	1.0	0.6	0.8	clean SAND to silty SAND	125	5.0	34	24	84	45	-	16
7.55	119.6	169.3	177.8	1.1	0.6	0.9	clean SAND to silty SAND	125	5.0	34	24	84	45	-	16
7.71	123.2	172.6	180.3	1.1	0.6	0.9	clean SAND to silty SAND	125	5.0	35	25	85	45	-	16
7.87	128.1	177.6	183.9	1.2	0.6	0.9	clean SAND to silty SAND	125	5.0	36	26	86	45	-	16
8.04	139.0	190.7	191.5	1.2	0.6	0.8	clean SAND to silty SAND	125	5.0	38	28	88	46	-	16
8.20	155.7	211.5	210.8	1.4	0.6	0.9	clean SAND to silty SAND	125	5.0	42	31	92	46	-	16
8.37	167.8	225.7	225.7	1.6	0.6	0.9	clean SAND to silty SAND	125	5.0	45	34	94	46	-	16
8.53	178.0	237.1	237.1	1.8	0.6	1.0	clean SAND to silty SAND	125	5.0	47	36	95	46	-	16
8.69	188.2	248.2	248.2	1.9	0.6	1.0	clean SAND to silty SAND	125	5.0	50	38	95	47	-	16
8.86	186.8	244.2	245.6	2.0	0.6	1.1	clean SAND to silty SAND	125	5.0	49	37	95	46	-	16
9.02	174.0	225.2	232.8	2.0	0.6	1.1	clean SAND to silty SAND	125	5.0	45	35	94	46	-	16
9.19	166.5	213.6	221.7	1.8	0.7	1.1	clean SAND to silty SAND	125	5.0	43	33	92	46	-	16
9.35	165.8	210.9	217.0	1.7	0.7	1.0	clean SAND to silty SAND	125	5.0	42	33	92	46	-	16
9.51	168.3	212.2	215.3	1.6	0.7	1.0	clean SAND to silty SAND	125	5.0	42	34	92	46	-	16
9.68	173.0	216.3	217.4	1.6	0.7	1.0	clean SAND to silty SAND	125	5.0	43	35	92	46	-	16
9.84	173.5	215.0	216.4	1.6	0.7	1.0	clean SAND to silty SAND	125	5.0	43	35	92	46	-	16
10.01	167.6	206.1	211.5	1.7	0.7	1.0	clean SAND to silty SAND	125	5.0	41	34	91	45	-	16
10.17	165.0	201.1	208.1	1.7	0.7	1.0	clean SAND to silty SAND	125	5.0	40	33	90	45	-	16
10.34	161.2	195.0	204.2	1.7	0.7	1.1	clean SAND to silty SAND	125	5.0	39	32	89	45	-	16
10.50	156.4	187.8	198.8	1.7	0.6	1.1	clean SAND to silty SAND	125	5.0	38	31	88	45	-	16
10.66	154.1	183.5	194.2	1.6	0.7	1.0	clean SAND to silty SAND	125	5.0	37	31	87	45	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(487).cpt
CPT Date: 10/12/2006 9:52:54 AM
GW During Test: 1.5 ft

Page: 2
Sounding ID: CPT-07
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qcln PS -	qncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	* Material Behavior Description	Unit Wght pcf	Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	* Und Shr tsf	* Nk -
10.83	152.0	179.6	191.3	1.6	0.7	1.1	clean SAND to silty SAND	125	5.0	36	30	86	45	-	16
10.99	149.5	175.4	186.9	1.5	0.7	1.0	clean SAND to silty SAND	125	5.0	35	30	86	44	-	16
11.16	150.2	174.9	188.0	1.6	0.7	1.1	clean SAND to silty SAND	125	5.0	35	30	85	44	-	16
11.32	147.1	170.0	180.5	1.4	0.7	1.0	clean SAND to silty SAND	125	5.0	34	29	85	44	-	16
11.48	137.3	157.5	171.6	1.4	0.7	1.0	clean SAND to silty SAND	125	5.0	32	27	82	44	-	16
11.65	142.9	163.4	176.7	1.5	0.7	1.0	clean SAND to silty SAND	125	5.0	33	29	83	44	-	16
11.81	146.0	166.3	180.1	1.5	0.9	1.1	clean SAND to silty SAND	125	5.0	33	29	84	44	-	16
11.98	151.6	172.2	185.5	1.6	0.9	1.1	clean SAND to silty SAND	125	5.0	34	30	85	44	-	16
12.14	157.0	177.7	190.3	1.7	0.9	1.1	clean SAND to silty SAND	125	5.0	36	31	86	44	-	16
12.30	164.5	185.5	195.9	1.7	0.9	1.0	clean SAND to silty SAND	125	5.0	37	33	87	45	-	16
12.47	171.4	192.6	201.2	1.8	1.0	1.0	clean SAND to silty SAND	125	5.0	39	34	89	45	-	16
12.63	168.9	189.1	199.7	1.8	1.0	1.1	clean SAND to silty SAND	125	5.0	38	34	88	45	-	16
12.80	160.5	179.1	192.9	1.8	1.0	1.1	clean SAND to silty SAND	125	5.0	36	32	86	44	-	16
12.96	150.0	166.8	182.4	1.7	1.0	1.1	clean SAND to silty SAND	125	5.0	33	30	84	44	-	16
13.12	140.0	155.2	173.6	1.6	1.1	1.2	clean SAND to silty SAND	125	5.0	31	28	82	44	-	16
13.29	128.0	141.5	163.7	1.6	1.0	1.2	clean SAND to silty SAND	125	5.0	28	26	78	43	-	16
13.45	119.5	131.5	156.4	1.5	1.1	1.3	clean SAND to silty SAND	125	5.0	26	24	76	43	-	16
13.62	115.3	126.6	148.4	1.3	1.1	1.2	clean SAND to silty SAND	125	5.0	25	23	75	43	-	16
13.78	116.2	127.1	145.8	1.2	1.1	1.1	clean SAND to silty SAND	125	5.0	25	23	75	43	-	16
13.94	116.9	127.4	146.9	1.3	1.2	1.1	clean SAND to silty SAND	125	5.0	25	23	75	43	-	16
14.11	116.3	126.4	146.5	1.3	1.2	1.1	clean SAND to silty SAND	125	5.0	25	23	75	42	-	16
14.27	127.3	137.9	154.5	1.3	1.2	1.0	clean SAND to silty SAND	125	5.0	28	25	78	43	-	16
14.44	147.9	159.7	169.3	1.3	1.3	0.9	clean SAND to silty SAND	125	5.0	32	30	82	44	-	16
14.60	151.0	162.6	171.7	1.4	1.5	0.9	clean SAND to silty SAND	125	5.0	33	30	83	44	-	16
14.76	147.1	157.8	166.7	1.3	1.6	0.9	clean SAND to silty SAND	125	5.0	32	29	82	44	-	16
14.93	148.5	158.9	169.8	1.4	1.6	0.9	clean SAND to silty SAND	125	5.0	32	30	82	44	-	16
15.09	150.9	160.9	174.6	1.6	1.9	1.0	clean SAND to silty SAND	125	5.0	32	30	83	44	-	16
15.26	153.8	163.5	177.0	1.6	2.0	1.0	clean SAND to silty SAND	125	5.0	33	31	83	44	-	16
15.42	157.0	166.4	178.2	1.6	2.1	1.0	clean SAND to silty SAND	125	5.0	33	31	84	44	-	16
15.58	157.8	166.8	173.6	1.4	2.2	0.9	clean SAND to silty SAND	125	5.0	33	32	84	44	-	16
15.75	149.5	157.5	161.8	1.1	2.2	0.8	clean SAND to silty SAND	125	5.0	31	30	82	43	-	16
15.91	149.4	157.0	158.6	1.0	2.2	0.7	clean SAND to silty SAND	125	5.0	31	30	82	43	-	16
16.08	145.1	152.0	154.1	1.0	2.2	0.7	clean SAND to silty SAND	125	5.0	30	29	81	43	-	16
16.24	143.6	149.9	151.2	0.9	2.2	0.6	clean SAND to silty SAND	125	5.0	30	29	80	43	-	16
16.40	141.3	147.1	148.3	0.9	2.2	0.6	clean SAND to silty SAND	125	5.0	29	28	80	43	-	16
16.57	150.7	156.4	158.4	1.0	2.2	0.7	clean SAND to silty SAND	125	5.0	31	30	82	43	-	16
16.73	162.3	167.9	172.4	1.3	2.2	0.8	clean SAND to silty SAND	125	5.0	34	32	84	44	-	16
16.90	175.7	181.3	188.8	1.7	2.3	0.9	clean SAND to silty SAND	125	5.0	36	35	87	44	-	16
17.06	194.9	200.6	209.3	2.1	2.3	1.1	clean SAND to silty SAND	125	5.0	40	39	90	44	-	16
17.23	191.7	196.7	208.8	2.2	2.3	1.1	clean SAND to silty SAND	125	5.0	39	38	89	44	-	16
17.39	187.4	191.7	205.3	2.1	2.3	1.2	clean SAND to silty SAND	125	5.0	38	37	88	44	-	16
17.55	191.2	195.1	206.3	2.1	2.4	1.1	clean SAND to silty SAND	125	5.0	39	38	89	44	-	16
17.72	211.9	215.5	221.1	2.2	2.5	1.0	clean SAND to silty SAND	125	5.0	43	42	92	45	-	16
17.88	232.2	235.6	235.6	2.1	2.6	0.9	clean SAND to silty SAND	125	5.0	47	46	95	45	-	16
18.05	245.9	248.8	248.8	2.1	2.6	0.8	clean SAND to silty SAND	125	5.0	50	49	95	45	-	16
18.21	245.7	247.8	247.8	2.1	2.4	0.9	clean SAND to silty SAND	125	5.0	50	49	95	45	-	16
18.37	253.1	254.7	254.7	2.2	2.4	0.9	clean SAND to silty SAND	125	5.0	51	51	95	45	-	16
18.54	250.6	251.5	251.5	2.4	2.4	0.9	clean SAND to silty SAND	125	5.0	50	50	95	45	-	16
18.70	244.2	244.3	249.5	2.8	2.3	1.1	clean SAND to silty SAND	125	5.0	49	49	95	45	-	16
18.87	259.5	258.9	266.7	3.2	2.3	1.2	clean SAND to silty SAND	125	5.0	52	52	95	45	-	16
19.03	297.3	295.9	301.2	3.9	2.7	1.3	clean SAND to silty SAND	125	5.0	59	59	95	46	-	16
19.19	347.6	344.9	346.1	4.8	3.2	1.4	clean SAND to silty SAND	125	5.0	69	70	95	47	-	16
19.36	388.3	384.3	384.3	5.6	2.9	1.4	clean SAND to silty SAND	125	5.0	77	78	95	47	-	16
19.52	396.7	391.6	391.6	5.7	3.0	1.4	clean SAND to silty SAND	125	5.0	78	79	95	47	-	16
19.69	428.2	421.6	421.6	6.1	2.4	1.4	clean SAND to silty SAND	125	5.0	84	86	95	48	-	16
19.85	428.8	421.1	421.1	5.8	2.6	1.4	clean SAND to silty SAND	125	5.0	84	86	95	48	-	16
20.01	427.6	418.8	418.8	6.0	2.2	1.4	clean SAND to silty SAND	125	5.0	84	86	95	48	-	16
20.18	437.8	427.7	427.7	6.3	2.0	1.4	clean SAND to silty SAND	125	5.0	86	88	95	48	-	16
20.34	444.1	432.7	432.7	6.8	2.1	1.5	clean SAND to silty SAND	125	5.0	87	89	95	48	-	16
20.51	495.2	481.2	481.2	6.9	2.3	1.4	clean SAND to silty SAND	125	5.0	96	99	95	48	-	16
20.67	536.8	520.4	520.4	6.9	2.0	1.3	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16
20.83	479.7	463.8	463.8	7.7	1.2	1.6	clean SAND to silty SAND	125	5.0	93	96	95	48	-	16
21.00	459.4	443.1	443.1	7.1	1.1	1.6	clean SAND to silty SAND	125	5.0	89	92	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-08

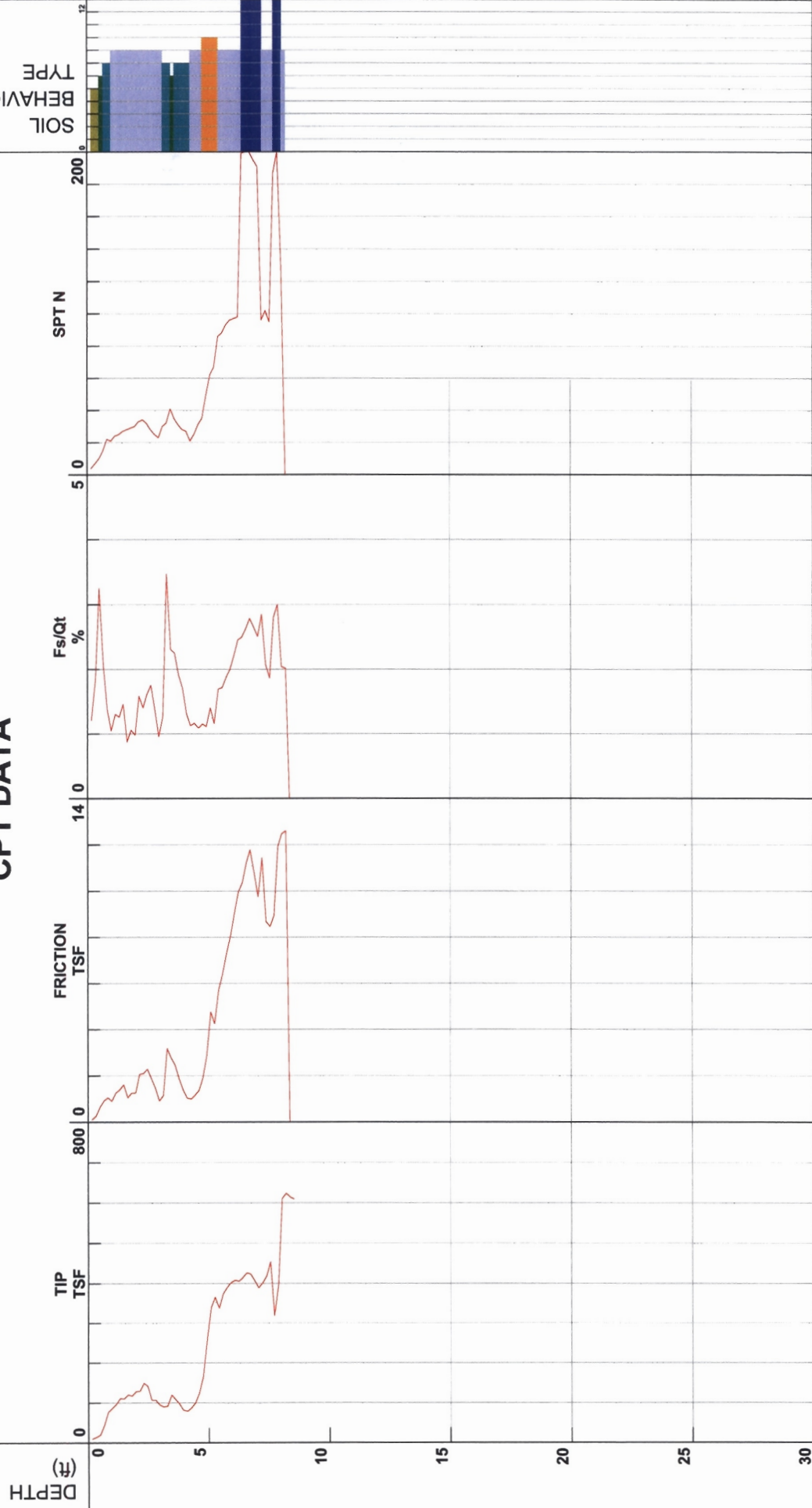
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/11/2006 11:10:43 AM

Filename
GPS
Maximum Depth
8.53 ft

SDF(480).cpt

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

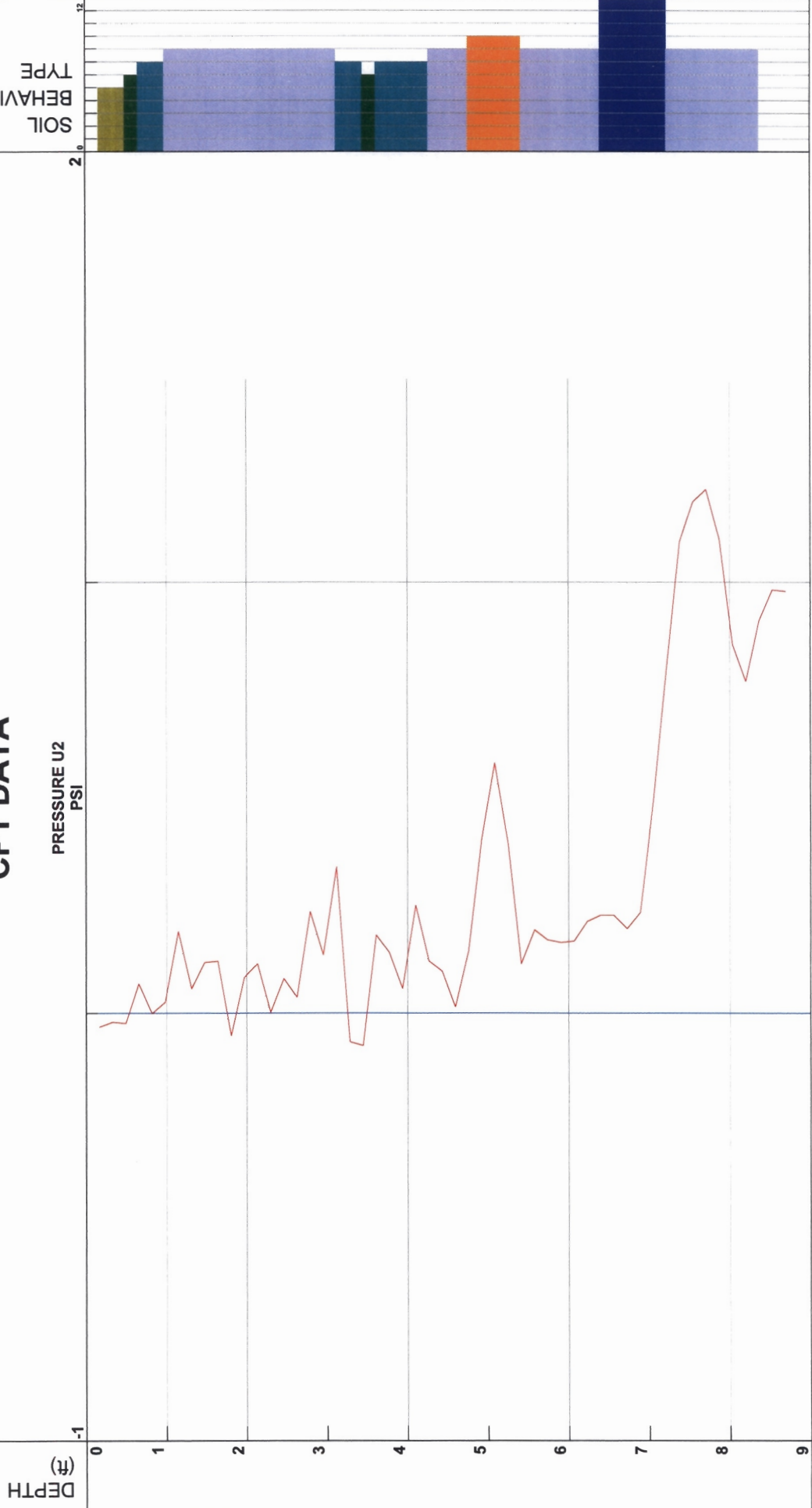
El Segundo NRG Plant
206954001
CPT-08

Operator
Cone Number
Date and Time
11.50 ft

Filename
GPS
Maximum Depth

SDF(480).cpt
8.69 ft

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(480).cpt
CPT Date: 10/11/2006 11:10:43 AM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-08
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qcln PS -	qncs PS -	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	14.2	22.8	73.6	0.3	0.0	1.9	clay SILT to silty CLAY	115	2.0	11	7	-	-	0.9	15
0.49	19.6	31.5	-	0.6	0.0	3.3	clay SILT to silty CLAY	115	2.0	16	10	-	-	1.3	15
0.66	44.0	70.6	124.0	0.9	0.1	2.1	silty SAND to sandy SILT	120	4.0	18	11	55	48	-	16
0.82	77.1	123.6	151.3	1.1	0.0	1.4	clean SAND to silty SAND	125	5.0	25	15	74	48	-	16
0.98	86.5	138.8	155.5	0.9	0.0	1.1	clean SAND to silty SAND	125	5.0	28	17	78	48	-	16
1.15	96.6	155.0	177.5	1.3	0.2	1.3	clean SAND to silty SAND	125	5.0	31	19	81	48	-	16
1.31	111.4	178.6	197.3	1.4	0.1	1.3	clean SAND to silty SAND	125	5.0	36	22	86	48	-	16
1.48	110.9	177.8	203.1	1.6	0.1	1.5	clean SAND to silty SAND	125	5.0	36	22	86	48	-	16
1.64	120.7	193.6	195.7	1.1	0.1	0.9	clean SAND to silty SAND	125	5.0	39	24	89	48	-	16
1.80	117.7	188.8	199.3	1.2	-0.1	1.1	clean SAND to silty SAND	125	5.0	38	24	88	48	-	16
1.97	128.8	206.6	210.9	1.3	0.1	1.0	clean SAND to silty SAND	125	5.0	41	26	91	48	-	16
2.13	130.0	208.5	235.3	2.1	0.1	1.6	clean SAND to silty SAND	125	5.0	42	26	91	48	-	16
2.30	149.7	240.1	257.2	2.1	0.0	1.4	clean SAND to silty SAND	125	5.0	48	30	95	48	-	16
2.46	142.1	227.8	253.9	2.3	0.1	1.6	clean SAND to silty SAND	125	5.0	46	28	94	48	-	16
2.62	107.4	172.2	207.4	1.9	0.0	1.8	clean SAND to silty SAND	125	5.0	34	21	85	48	-	16
2.79	107.3	172.0	195.2	1.5	0.2	1.4	clean SAND to silty SAND	125	5.0	34	21	85	48	-	16
2.95	95.4	153.1	165.2	0.9	0.1	1.0	clean SAND to silty SAND	125	5.0	31	19	81	48	-	16
3.12	90.3	144.9	167.4	1.1	0.3	1.3	clean SAND to silty SAND	125	5.0	29	18	79	48	-	16
3.28	92.1	147.7	242.6	3.2	-0.1	3.5	stiff SAND to clay SAND	115	1.0	100	92	-	-	5.7	16
3.45	120.3	192.9	245.5	2.8	-0.1	2.3	stiff SAND to sandy SILT	120	4.0	48	30	89	48	-	16
3.61	109.4	175.4	227.0	2.5	0.2	2.3	stiff SAND to sandy SILT	120	4.0	44	27	86	48	-	16
3.77	98.1	157.3	198.8	1.9	0.1	1.9	clean SAND to silty SAND	125	5.0	31	20	82	47	-	16
3.94	82.2	131.8	168.8	1.4	0.1	1.7	clean SAND to silty SAND	125	5.0	26	16	76	46	-	16
4.10	79.4	127.3	153.2	1.0	0.2	1.3	clean SAND to silty SAND	125	5.0	25	16	75	46	-	16
4.27	87.7	140.6	159.5	1.0	0.1	1.1	clean SAND to silty SAND	125	5.0	28	18	78	46	-	16
4.43	99.9	160.2	178.0	1.2	0.1	1.2	clean SAND to silty SAND	125	5.0	32	20	83	47	-	16
4.59	125.3	201.0	211.0	1.4	0.0	1.1	clean SAND to silty SAND	125	5.0	40	25	90	48	-	16
4.76	166.7	267.4	269.0	1.9	0.1	1.2	clean SAND to silty SAND	125	5.0	53	33	95	48	-	16
4.92	257.4	412.8	412.8	2.9	0.4	1.1	clean SAND to silty SAND	125	5.0	83	51	95	48	-	16
5.09	340.0	545.2	545.2	4.8	0.6	1.4	clean SAND to silty SAND	125	5.0	100	68	95	48	-	16
5.25	366.4	587.6	587.6	4.3	0.4	1.2	clean SAND to silty SAND	125	5.0	100	73	95	48	-	16
5.41	338.3	542.5	542.5	5.7	0.1	1.7	clean SAND to silty SAND	125	5.0	100	68	95	48	-	16
5.58	373.4	598.9	598.9	6.4	0.2	1.7	stiff SAND to clay SAND	115	1.0	100	100	-	-	23.3	16
5.74	389.5	624.6	624.6	7.3	0.2	1.9	stiff SAND to clay SAND	115	1.0	100	100	-	-	24.3	16
5.91	402.2	645.0	651.5	8.1	0.2	2.0	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.1	16
6.07	407.8	649.8	674.0	9.0	0.2	2.2	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.5	16
6.23	405.7	638.4	681.1	10.0	0.2	2.5	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.3	16
6.40	414.4	644.2	689.5	10.4	0.2	2.5	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.9	16
6.56	426.3	654.7	709.1	11.2	0.2	2.6	stiff SAND to clay SAND	115	1.0	100	100	-	-	26.6	16
6.73	423.4	642.8	707.8	11.8	0.2	2.8	stiff SAND to clay SAND	115	1.0	100	100	-	-	26.4	16
6.89	407.2	611.3	668.2	10.8	0.2	2.7	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.4	16
7.05	389.0	577.4	626.0	9.8	0.5	2.5	stiff SAND to clay SAND	115	1.0	100	100	-	-	24.3	16
7.22	401.6	589.7	659.3	11.4	0.8	2.9	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.1	16
7.38	418.1	607.4	623.9	8.7	1.1	2.1	stiff SAND to clay SAND	115	1.0	100	100	-	-	26.1	16
7.55	453.8	652.4	652.4	8.5	1.2	1.9	stiff SAND to clay SAND	115	1.0	100	100	-	-	28.3	16
7.71	319.1	454.0	522.1	8.9	1.2	2.8	stiff SAND to clay SAND	115	1.0	100	100	-	-	19.9	16
7.87	396.9	559.1	638.3	11.9	1.1	3.0	stiff SAND to clay SAND	115	1.0	100	100	-	-	24.8	16
8.04	610.9	852.2	852.2	12.5	0.8	2.0	stiff SAND to clay SAND	115	1.0	100	100	-	-	38.1	16
8.20	624.2	862.5	862.5	12.6	0.9	2.0	stiff SAND to clay SAND	115	1.0	100	100	-	-	39.0	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-09

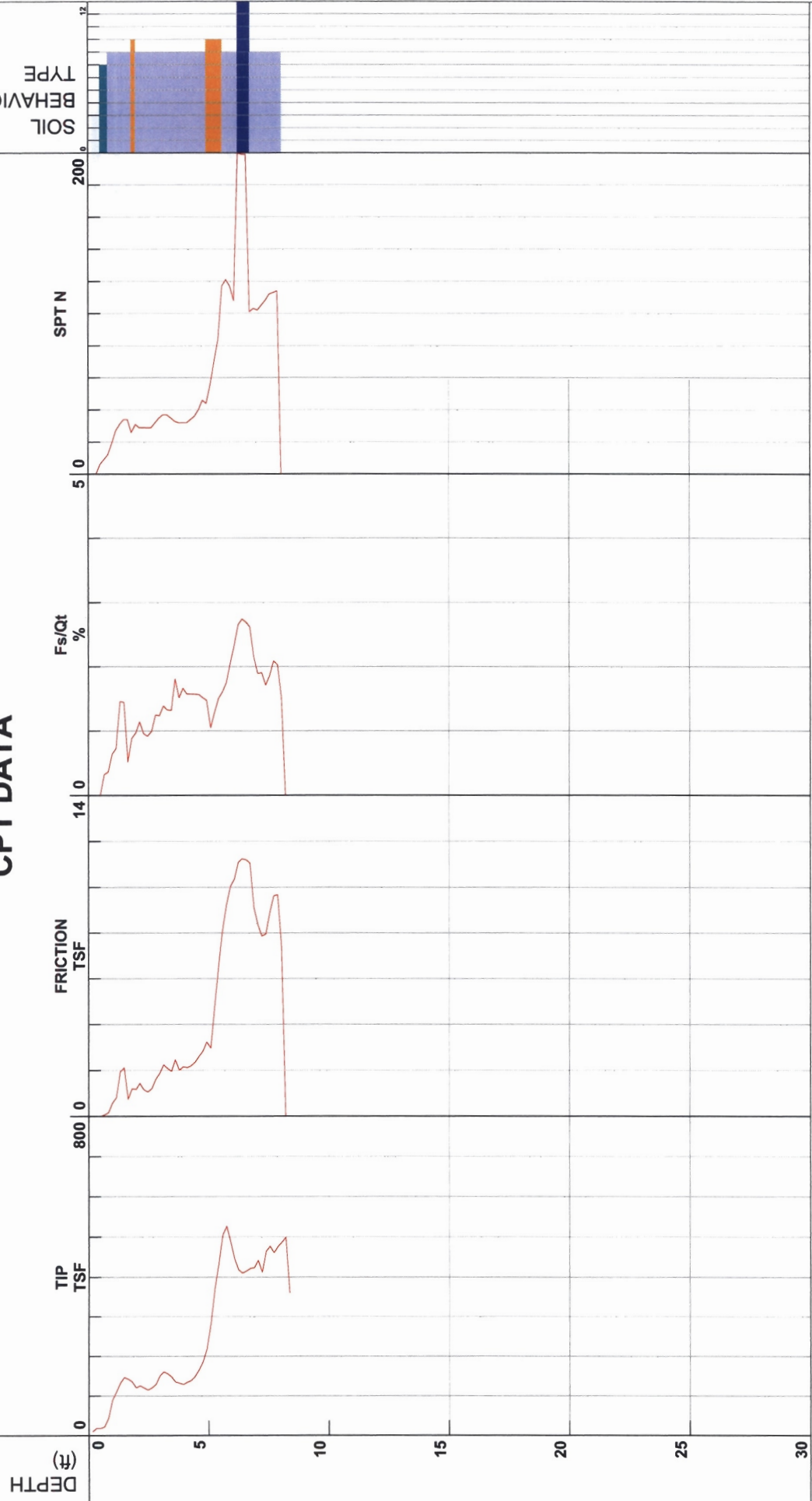
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/11/2006 1:08:01 PM

Filename
GPS
Maximum Depth
8.37 ft

SDF(481).cpt

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-09

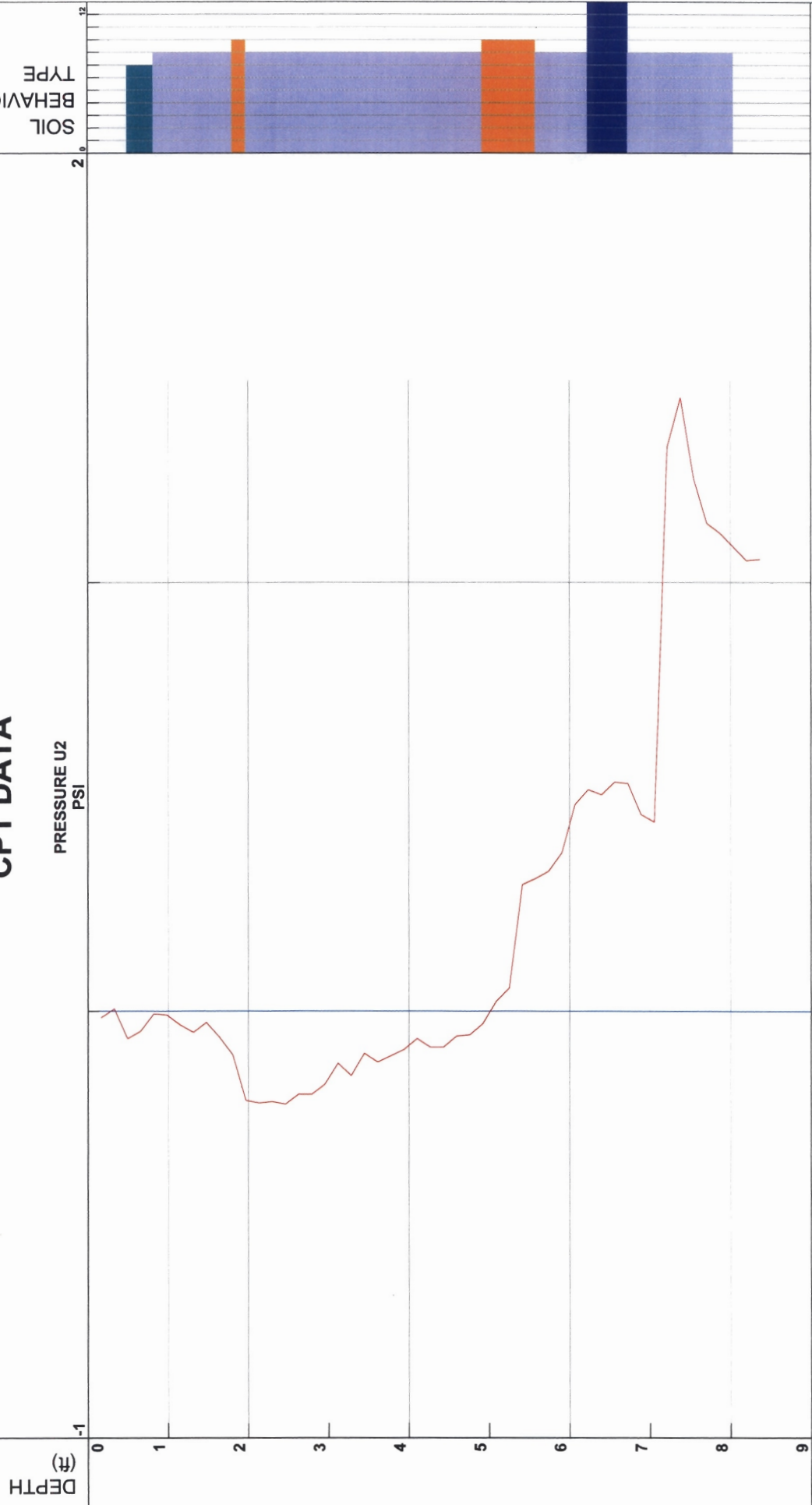
Operator
Cone Number
Date and Time
11.50 ft

ML-CW
DSA0408
10/11/2006 1:08:01 PM

Filename
GPS
Maximum Depth
8.37 ft

SDF(481).cpt

CPT DATA



- 1 - sensitive fine grained
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- 9 - sand
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*Soil behavior type and SPT based on data from UBC-1983

Depth Increment

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(481).cpt
CPT Date: 10/11/2006 1:08:01 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-09
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qcln PS -	qlncs PS -	Slv Stss tsf	pore prss (psi)	Frct Rato %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	18.4	29.6	39.1	0.1	0.0	0.1	clean SAND to silty SAND	125	5.0	6	4	27	48	-	16
0.49	18.5	29.7	39.2	0.1	-0.1	0.1	clean SAND to silty SAND	125	5.0	6	4	27	48	-	16
0.66	22.2	35.7	49.2	0.1	0.0	0.3	clean SAND to silty SAND	125	5.0	7	4	33	48	-	16
0.82	43.9	70.4	78.0	0.2	0.0	0.4	clean SAND to silty SAND	125	5.0	14	9	55	48	-	16
0.98	89.6	143.7	145.8	0.6	0.0	0.6	clean SAND to silty SAND	125	5.0	29	18	79	48	-	16
1.15	110.7	177.6	177.6	0.8	0.0	0.7	clean SAND to silty SAND	125	5.0	36	22	86	48	-	16
1.31	133.2	213.6	235.5	1.9	0.0	1.5	clean SAND to silty SAND	125	5.0	43	27	92	48	-	16
1.48	146.8	235.4	254.7	2.1	0.0	1.4	clean SAND to silty SAND	125	5.0	47	29	95	48	-	16
1.64	143.0	229.4	229.4	0.8	-0.1	0.5	clean SAND to silty SAND	125	5.0	46	29	94	48	-	16
1.80	136.6	219.1	219.1	1.2	-0.1	0.9	clean SAND to silty SAND	125	5.0	44	27	93	48	-	16
1.97	121.2	194.4	200.5	1.2	-0.2	1.0	clean SAND to silty SAND	125	5.0	39	24	89	48	-	16
2.13	126.1	202.2	214.0	1.4	-0.2	1.1	clean SAND to silty SAND	125	5.0	40	25	90	48	-	16
2.30	121.1	194.2	199.8	1.2	-0.2	1.0	clean SAND to silty SAND	125	5.0	39	24	89	48	-	16
2.46	116.1	186.2	191.6	1.1	-0.2	0.9	clean SAND to silty SAND	125	5.0	37	23	88	48	-	16
2.62	121.0	194.1	201.1	1.2	-0.2	1.0	clean SAND to silty SAND	125	5.0	39	24	89	48	-	16
2.79	129.1	207.1	222.2	1.6	-0.2	1.3	clean SAND to silty SAND	125	5.0	41	26	91	48	-	16
2.95	150.6	241.5	251.7	1.9	-0.2	1.2	clean SAND to silty SAND	125	5.0	48	30	95	48	-	16
3.12	161.4	258.9	273.3	2.2	-0.1	1.4	clean SAND to silty SAND	125	5.0	52	32	95	48	-	16
3.28	157.2	252.1	264.7	2.1	-0.1	1.3	clean SAND to silty SAND	125	5.0	50	31	95	48	-	16
3.45	149.0	239.0	252.9	2.0	-0.1	1.3	clean SAND to silty SAND	125	5.0	48	30	95	48	-	16
3.61	136.3	218.6	252.6	2.5	-0.1	1.8	clean SAND to silty SAND	125	5.0	44	27	93	48	-	16
3.77	132.9	213.2	237.2	2.0	-0.1	1.5	clean SAND to silty SAND	125	5.0	43	27	92	48	-	16
3.94	129.6	207.9	237.6	2.2	-0.1	1.7	clean SAND to silty SAND	125	5.0	42	26	91	48	-	16
4.10	135.1	216.7	242.4	2.1	-0.1	1.6	clean SAND to silty SAND	125	5.0	43	27	93	48	-	16
4.27	140.0	224.5	249.6	2.2	-0.1	1.6	clean SAND to silty SAND	125	5.0	45	28	94	48	-	16
4.43	150.2	240.8	264.3	2.4	-0.1	1.6	clean SAND to silty SAND	125	5.0	48	30	95	48	-	16
4.59	166.5	267.0	287.8	2.6	-0.1	1.6	clean SAND to silty SAND	125	5.0	53	33	95	48	-	16
4.76	187.3	300.4	315.5	2.8	-0.1	1.5	clean SAND to silty SAND	125	5.0	60	37	95	48	-	16
4.92	219.2	351.5	357.7	3.2	0.0	1.5	clean SAND to silty SAND	125	5.0	70	44	95	48	-	16
5.09	283.6	454.9	454.9	3.0	0.0	1.1	clean SAND to silty SAND	125	5.0	91	57	95	48	-	16
5.25	372.6	597.5	597.5	4.8	0.1	1.3	clean SAND to silty SAND	125	5.0	100	75	95	48	-	16
5.41	437.2	701.1	701.1	6.6	0.3	1.5	clean SAND to silty SAND	125	5.0	100	87	95	48	-	16
5.58	504.8	809.5	809.5	8.1	0.3	1.6	stiff SAND to clay SAND	115	1.0	100	100	-	-	31.5	16
5.74	526.8	844.9	844.9	9.2	0.3	1.8	stiff SAND to clay SAND	115	1.0	100	100	-	-	32.9	16
5.91	487.8	782.4	782.4	10.0	0.4	2.1	stiff SAND to clay SAND	115	1.0	100	100	-	-	30.5	16
6.07	445.2	705.2	734.0	10.4	0.5	2.3	stiff SAND to clay SAND	115	1.0	100	100	-	-	27.8	16
6.23	418.4	654.5	710.1	11.1	0.5	2.7	stiff SAND to clay SAND	115	1.0	100	100	-	-	26.1	16
6.40	410.0	633.7	695.9	11.2	0.5	2.7	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.6	16
6.56	415.5	634.7	693.8	11.2	0.5	2.7	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.9	16
6.73	421.9	637.0	691.1	11.1	0.5	2.6	stiff SAND to clay SAND	115	1.0	100	100	-	-	26.3	16
6.89	423.5	632.3	652.5	9.1	0.5	2.2	stiff SAND to clay SAND	115	1.0	100	100	-	-	26.4	16
7.05	441.9	652.6	652.6	8.4	0.4	1.9	stiff SAND to clay SAND	115	1.0	100	100	-	-	27.6	16
7.22	412.5	602.6	605.5	7.9	1.3	1.9	stiff SAND to clay SAND	115	1.0	100	100	-	-	25.8	16
7.38	464.5	671.4	671.4	8.0	1.4	1.7	stiff SAND to clay SAND	115	1.0	100	100	-	-	29.0	16
7.55	477.1	682.5	682.5	8.9	1.2	1.9	stiff SAND to clay SAND	115	1.0	100	100	-	-	29.8	16
7.71	460.9	652.8	666.0	9.6	1.1	2.1	stiff SAND to clay SAND	115	1.0	100	100	-	-	28.8	16
7.87	475.8	667.1	673.9	9.7	1.1	2.0	stiff SAND to clay SAND	115	1.0	100	100	-	-	29.7	16
8.04	486.3	675.3	675.3	7.4	1.1	1.5	clean SAND to silty SAND	125	5.0	100	97	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Holguin, Fahan & Associates, Inc.



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-10

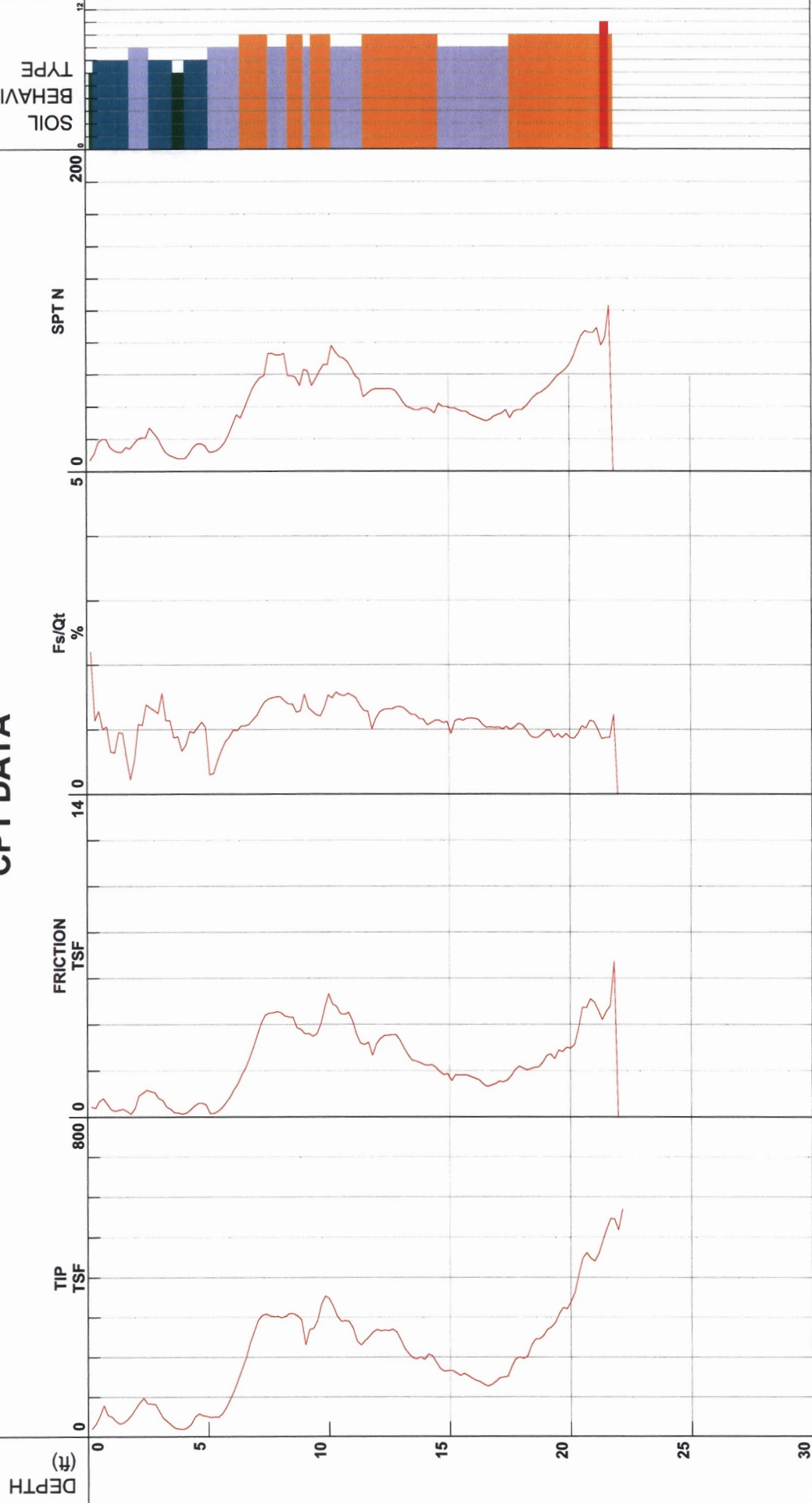
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Cone Number
Date and Time
11.50 ft

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DSA0408
10/12/2006 2:44:32 PM

Filename
GPS
Maximum Depth

SDF(491).cpt
22.15 ft

CPT DATA



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

*Soil behavior type and SPT based on data from UBC-1983



Ninyo & Moore

Location
Job Number
Hole Number
Water Table Depth

El Segundo NRG Plant
206954001
CPT-10

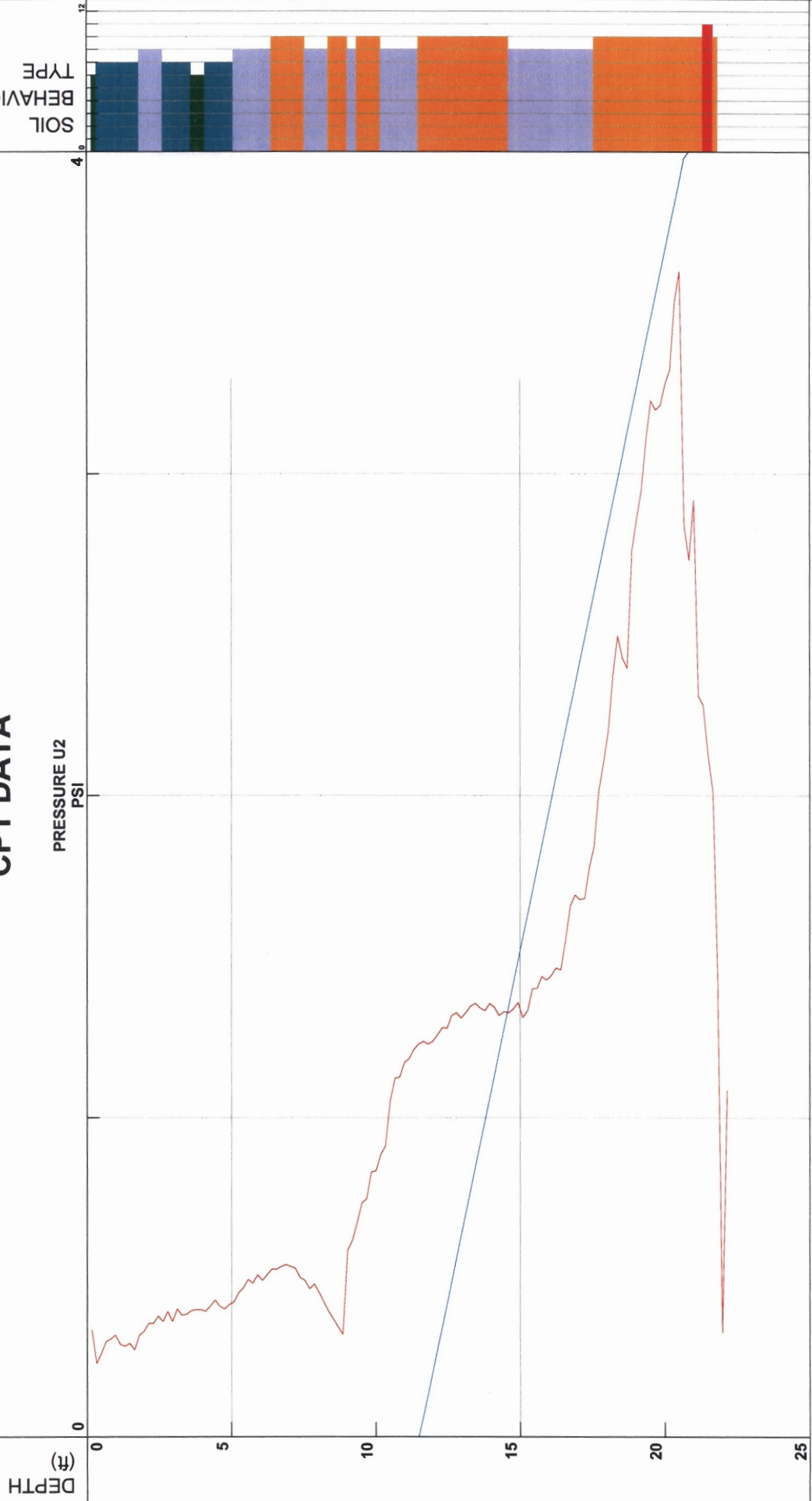
Operator
Cone Number
Date and Time

ML-CW
DSA0408
10/12/2006 2:44:32 PM

Filename
GPS
Maximum Depth

SDF(491).cpt
22.15 ft

CPT DATA



- 1 - sensitive fine grained
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*Soil behavior type and SPT based on data from UBC-1983

Holguin, Fahan & Associates, Inc.

Project ID: Ninyo & Moore
Data File: SDF(491).cpt
CPT Date: 10/12/2006 2:44:32 PM
GW During Test: 1.5 ft

Page: 1
Sounding ID: CPT-10
Project No: 206954001
Cone/Rig: DSA0408

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	Slv Stss tsf	pore prss (psi)	Frct Rato %	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N1 60%	SPT R-N 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	Nk -
0.33	33.4	53.6	84.3	0.4	0.2	1.1	silty SAND to sandy SILT	120	4.0	13	8	46	48	-	16
0.49	53.8	86.2	115.8	0.7	0.3	1.3	silty SAND to sandy SILT	120	4.0	22	13	62	48	-	16
0.66	79.6	127.7	144.6	0.8	0.3	1.0	clean SAND to silty SAND	125	5.0	26	16	75	48	-	16
0.82	54.8	87.9	110.6	0.6	0.3	1.0	clean SAND to silty SAND	125	5.0	18	11	63	48	-	16
0.98	50.6	81.1	94.6	0.3	0.3	0.7	clean SAND to silty SAND	125	5.0	16	10	60	48	-	16
1.15	40.0	64.1	79.9	0.3	0.3	0.6	clean SAND to silty SAND	125	5.0	13	8	52	48	-	16
1.31	32.9	52.8	79.0	0.3	0.3	1.0	silty SAND to sandy SILT	120	4.0	13	8	46	47	-	16
1.48	36.4	58.4	83.2	0.3	0.3	0.9	silty SAND to sandy SILT	120	4.0	15	9	49	47	-	16
1.64	44.9	72.1	84.7	0.3	0.3	0.6	clean SAND to silty SAND	125	5.0	14	9	56	48	-	16
1.80	55.4	88.9	88.9	0.1	0.3	0.2	clean SAND to silty SAND	125	5.0	18	11	63	48	-	16
1.97	71.8	115.2	119.4	0.4	0.3	0.5	clean SAND to silty SAND	125	5.0	23	14	72	48	-	16
2.13	85.5	137.2	155.1	0.9	0.4	1.1	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
2.30	97.7	156.7	171.8	1.0	0.4	1.1	clean SAND to silty SAND	125	5.0	31	20	82	48	-	16
2.46	84.3	135.2	162.2	1.2	0.4	1.4	clean SAND to silty SAND	125	5.0	27	17	77	48	-	16
2.62	83.1	133.2	159.0	1.1	0.4	1.3	clean SAND to silty SAND	125	5.0	27	17	76	48	-	16
2.79	82.1	131.7	156.5	1.1	0.4	1.3	clean SAND to silty SAND	125	5.0	26	16	76	48	-	16
2.95	64.5	103.4	130.0	0.8	0.4	1.3	clean SAND to silty SAND	125	5.0	21	13	68	47	-	16
3.12	46.5	74.6	113.7	0.7	0.4	1.6	silty SAND to sandy SILT	120	4.0	19	12	57	45	-	16
3.28	39.3	63.1	92.4	0.4	0.4	1.1	silty SAND to sandy SILT	120	4.0	16	10	52	44	-	16
3.45	29.7	47.6	80.0	0.3	0.4	1.1	silty SAND to sandy SILT	120	4.0	12	7	43	42	-	16
3.61	22.1	35.5	63.8	0.2	0.4	0.9	silty SAND to sandy SILT	120	4.0	9	6	33	41	-	16
3.77	20.3	32.5	62.1	0.2	0.4	0.9	silty SAND to sandy SILT	120	4.0	8	5	30	40	-	16
3.94	19.3	30.9	55.2	0.1	0.4	0.7	silty SAND to sandy SILT	120	4.0	8	5	28	39	-	16
4.10	22.8	36.6	61.8	0.2	0.4	0.8	silty SAND to sandy SILT	120	4.0	9	6	34	40	-	16
4.27	31.7	50.8	78.1	0.3	0.4	1.0	silty SAND to sandy SILT	120	4.0	13	8	45	42	-	16
4.43	50.0	80.2	101.8	0.5	0.4	1.0	clean SAND to silty SAND	125	5.0	16	10	60	44	-	16
4.59	58.3	93.4	115.5	0.6	0.4	1.0	clean SAND to silty SAND	125	5.0	19	12	65	44	-	16
4.76	53.6	85.9	111.2	0.6	0.4	1.1	clean SAND to silty SAND	125	5.0	17	11	62	44	-	16
4.92	51.6	82.8	106.4	0.5	0.4	1.0	clean SAND to silty SAND	125	5.0	17	10	61	43	-	16
5.09	49.2	78.8	83.1	0.1	0.4	0.3	clean SAND to silty SAND	125	5.0	16	10	59	43	-	16
5.25	50.2	80.6	85.1	0.2	0.5	0.3	clean SAND to silty SAND	125	5.0	16	10	60	43	-	16
5.41	49.9	80.1	90.4	0.3	0.5	0.5	clean SAND to silty SAND	125	5.0	16	10	60	43	-	16
5.58	59.2	94.9	107.2	0.4	0.5	0.7	clean SAND to silty SAND	125	5.0	19	12	65	43	-	16
5.74	75.9	121.7	133.9	0.6	0.5	0.8	clean SAND to silty SAND	125	5.0	24	15	73	44	-	16
5.91	96.6	155.0	164.5	0.9	0.5	0.9	clean SAND to silty SAND	125	5.0	31	19	81	45	-	16
6.07	119.4	189.8	197.7	1.2	0.5	1.0	clean SAND to silty SAND	125	5.0	38	24	88	46	-	16
6.23	146.1	229.2	229.4	1.4	0.5	1.0	clean SAND to silty SAND	125	5.0	46	29	94	47	-	16
6.40	172.5	267.0	267.0	1.8	0.5	1.1	clean SAND to silty SAND	125	5.0	53	34	95	48	-	16
6.56	201.3	307.6	307.6	2.1	0.5	1.1	clean SAND to silty SAND	125	5.0	62	40	95	48	-	16
6.73	237.0	357.7	357.7	2.6	0.5	1.1	clean SAND to silty SAND	125	5.0	72	47	95	48	-	16
6.89	264.3	394.0	394.0	3.0	0.5	1.2	clean SAND to silty SAND	125	5.0	79	53	95	48	-	16
7.05	292.6	431.0	431.0	3.6	0.5	1.2	clean SAND to silty SAND	125	5.0	86	59	95	48	-	16
7.22	304.7	443.6	443.6	4.1	0.5	1.3	clean SAND to silty SAND	125	5.0	89	61	95	48	-	16
7.38	308.6	444.2	444.2	4.4	0.5	1.4	clean SAND to silty SAND	125	5.0	89	62	95	48	-	16
7.55	304.6	433.6	433.6	4.5	0.5	1.5	clean SAND to silty SAND	125	5.0	87	61	95	48	-	16
7.71	301.9	425.1	425.1	4.5	0.5	1.5	clean SAND to silty SAND	125	5.0	85	60	95	48	-	16
7.87	302.2	421.1	421.1	4.6	0.5	1.5	clean SAND to silty SAND	125	5.0	84	60	95	48	-	16
8.04	299.2	412.5	412.5	4.5	0.5	1.5	clean SAND to silty SAND	125	5.0	82	60	95	48	-	16
8.20	303.0	413.6	413.6	4.4	0.4	1.4	clean SAND to silty SAND	125	5.0	83	61	95	48	-	16
8.37	310.2	419.1	419.1	4.3	0.4	1.4	clean SAND to silty SAND	125	5.0	84	62	95	48	-	16
8.53	309.3	413.8	413.8	4.3	0.4	1.4	clean SAND to silty SAND	125	5.0	83	62	95	48	-	16
8.69	303.8	402.6	402.6	3.9	0.3	1.3	clean SAND to silty SAND	125	5.0	81	61	95	48	-	16
8.86	293.5	385.2	385.2	3.8	0.3	1.3	clean SAND to silty SAND	125	5.0	77	59	95	48	-	16
9.02	231.5	301.1	317.8	3.6	0.6	1.6	clean SAND to silty SAND	125	5.0	60	46	95	47	-	16
9.19	269.6	347.5	347.5	3.6	0.6	1.3	clean SAND to silty SAND	125	5.0	69	54	95	48	-	16
9.35	272.5	348.0	348.0	3.5	0.7	1.3	clean SAND to silty SAND	125	5.0	70	54	95	48	-	16
9.51	291.3	368.8	368.8	3.6	0.7	1.2	clean SAND to silty SAND	125	5.0	74	58	95	48	-	16
9.68	333.1	418.1	418.1	4.0	0.7	1.2	clean SAND to silty SAND	125	5.0	84	67	95	48	-	16
9.84	354.3	440.9	440.9	4.7	0.8	1.3	clean SAND to silty SAND	125	5.0	88	71	95	48	-	16
10.01	347.6	429.0	429.0	5.3	0.8	1.5	clean SAND to silty SAND	125	5.0	86	70	95	48	-	16
10.17	328.0	401.5	400.4	4.9	0.9	1.5	clean SAND to silty SAND	125	5.0	80	66	95	48	-	16
10.34	303.3	368.4	378.1	4.8	0.9	1.6	clean SAND to silty SAND	125	5.0	74	61	95	48	-	16
10.50	290.2	349.6	359.5	4.5	1.1	1.5	clean SAND to silty SAND	125	5.0	70	58	95	48	-	16
10.66	291.9	349.0	358.1	4.4	1.1	1.5	clean SAND to silty SAND	125	5.0	70	58	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

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Project ID: Ninyo & Moore
 Data File: SDF(491).cpt
 CPT Date: 10/12/2006 2:44:32 PM
 GW During Test: 1.5 ft

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 Sounding ID: CPT-10
 Project No: 206954001
 Cone/Rig: DSA0408

Depth ft	qc PS tsf	* qc1n PS	* q1ncs PS	* Slv Stss tsf	* pore prss (psi)	* Frct Rato %	* Material Behavior Description	Unit Wght pcf	* Qc to N	* SPT R-N1 60%	* SPT R-N 60%	* Rel Den %	* Ftn Ang deg	* Und Shr tsf	* Nk -
10.83	289.9	343.8	355.8	4.5	1.1	1.6	clean SAND to silty SAND	125	5.0	69	58	95	48	-	16
10.99	272.4	320.6	333.9	4.2	1.2	1.5	clean SAND to silty SAND	125	5.0	64	54	95	47	-	16
11.16	240.4	280.9	297.2	3.6	1.2	1.5	clean SAND to silty SAND	125	5.0	56	48	95	47	-	16
11.32	231.1	268.1	280.9	3.2	1.2	1.4	clean SAND to silty SAND	125	5.0	54	46	95	46	-	16
11.48	242.0	278.7	286.1	3.1	1.2	1.3	clean SAND to silty SAND	125	5.0	56	48	95	46	-	16
11.65	251.9	289.0	294.1	3.2	1.2	1.3	clean SAND to silty SAND	125	5.0	58	50	95	47	-	16
11.81	263.2	300.9	300.9	2.7	1.2	1.0	clean SAND to silty SAND	125	5.0	60	53	95	47	-	16
11.98	269.5	307.1	307.1	3.2	1.2	1.2	clean SAND to silty SAND	125	5.0	61	54	95	47	-	16
12.14	266.2	302.2	304.5	3.4	1.3	1.3	clean SAND to silty SAND	125	5.0	60	53	95	47	-	16
12.30	267.9	303.0	307.4	3.5	1.3	1.3	clean SAND to silty SAND	125	5.0	61	54	95	47	-	16
12.47	266.8	300.8	306.0	3.5	1.3	1.3	clean SAND to silty SAND	125	5.0	60	53	95	47	-	16
12.63	270.4	303.7	308.3	3.6	1.3	1.3	clean SAND to silty SAND	125	5.0	61	54	95	47	-	16
12.80	263.1	294.5	302.3	3.6	1.3	1.4	clean SAND to silty SAND	125	5.0	59	53	95	47	-	16
12.96	244.4	272.7	284.0	3.3	1.3	1.4	clean SAND to silty SAND	125	5.0	55	49	95	46	-	16
13.12	222.9	247.9	261.6	3.0	1.3	1.3	clean SAND to silty SAND	125	5.0	50	45	95	46	-	16
13.29	209.9	232.6	246.0	2.7	1.3	1.3	clean SAND to silty SAND	125	5.0	47	42	95	45	-	16
13.45	199.1	219.9	233.0	2.5	1.4	1.2	clean SAND to silty SAND	125	5.0	44	40	93	45	-	16
13.62	196.3	216.1	229.6	2.4	1.3	1.2	clean SAND to silty SAND	125	5.0	43	39	92	45	-	16
13.78	201.2	220.8	231.2	2.4	1.3	1.2	clean SAND to silty SAND	125	5.0	44	40	93	45	-	16
13.94	194.6	212.9	224.2	2.3	1.4	1.2	clean SAND to silty SAND	125	5.0	43	39	92	45	-	16
14.11	208.1	226.9	232.0	2.2	1.3	1.1	clean SAND to silty SAND	125	5.0	45	42	94	45	-	16
14.27	204.2	221.9	229.5	2.3	1.3	1.1	clean SAND to silty SAND	125	5.0	44	41	93	45	-	16
14.44	187.7	203.3	215.2	2.1	1.3	1.1	clean SAND to silty SAND	125	5.0	41	38	90	45	-	16
14.60	171.6	185.3	199.6	2.0	1.3	1.1	clean SAND to silty SAND	125	5.0	37	34	87	44	-	16
14.76	164.9	177.5	191.5	1.8	1.3	1.1	clean SAND to silty SAND	125	5.0	36	33	86	44	-	16
14.93	166.5	178.7	193.3	1.9	1.4	1.1	clean SAND to silty SAND	125	5.0	36	33	86	44	-	16
15.09	166.8	178.4	186.2	1.6	1.3	0.9	clean SAND to silty SAND	125	5.0	36	33	86	44	-	16
15.26	161.0	171.7	187.5	1.8	1.3	1.1	clean SAND to silty SAND	125	5.0	34	32	85	44	-	16
15.42	154.7	164.5	182.1	1.8	1.4	1.2	clean SAND to silty SAND	125	5.0	33	31	83	44	-	16
15.58	159.0	168.6	185.0	1.8	1.4	1.2	clean SAND to silty SAND	125	5.0	34	32	84	44	-	16
15.75	154.1	162.8	180.9	1.8	1.4	1.2	clean SAND to silty SAND	125	5.0	33	31	83	44	-	16
15.91	147.4	155.2	174.3	1.7	1.4	1.2	clean SAND to silty SAND	125	5.0	31	29	82	43	-	16
16.08	141.9	149.0	168.7	1.7	1.4	1.2	clean SAND to silty SAND	125	5.0	30	28	80	43	-	16
16.24	138.7	145.2	164.7	1.6	1.5	1.2	clean SAND to silty SAND	125	5.0	29	28	79	43	-	16
16.40	132.2	138.0	156.0	1.4	1.5	1.1	clean SAND to silty SAND	125	5.0	28	26	78	43	-	16
16.57	127.4	132.6	150.0	1.3	1.5	1.0	clean SAND to silty SAND	125	5.0	27	25	76	42	-	16
16.73	132.1	137.1	154.1	1.4	1.7	1.0	clean SAND to silty SAND	125	5.0	27	26	77	43	-	16
16.90	139.6	144.4	160.3	1.4	1.7	1.0	clean SAND to silty SAND	125	5.0	29	28	79	43	-	16
17.06	148.3	153.0	168.0	1.5	1.7	1.0	clean SAND to silty SAND	125	5.0	31	30	81	43	-	16
17.23	150.1	154.5	168.4	1.5	1.7	1.0	clean SAND to silty SAND	125	5.0	31	30	81	43	-	16
17.39	151.3	155.2	170.2	1.6	1.8	1.1	clean SAND to silty SAND	125	5.0	31	30	82	43	-	16
17.55	176.9	181.0	190.9	1.8	1.8	1.0	clean SAND to silty SAND	125	5.0	36	35	87	44	-	16
17.72	196.1	200.1	208.2	2.0	2.0	1.0	clean SAND to silty SAND	125	5.0	40	39	90	44	-	16
17.88	200.9	204.4	214.2	2.2	2.1	1.1	clean SAND to silty SAND	125	5.0	41	40	91	44	-	16
18.05	197.1	199.9	209.7	2.1	2.2	1.1	clean SAND to silty SAND	125	5.0	40	39	90	44	-	16
18.21	202.9	205.2	211.0	2.0	2.4	1.0	clean SAND to silty SAND	125	5.0	41	41	91	44	-	16
18.37	230.5	232.5	232.5	2.1	2.5	0.9	clean SAND to silty SAND	125	5.0	46	46	95	45	-	16
18.54	245.9	247.4	247.4	2.1	2.4	0.9	clean SAND to silty SAND	125	5.0	49	49	95	45	-	16
18.70	246.5	247.3	247.3	2.2	2.4	0.9	clean SAND to silty SAND	125	5.0	49	49	95	45	-	16
18.87	253.8	253.9	253.9	2.4	2.8	0.9	clean SAND to silty SAND	125	5.0	51	51	95	45	-	16
19.03	270.1	269.5	269.5	2.7	2.9	1.0	clean SAND to silty SAND	125	5.0	54	54	95	46	-	16
19.19	275.3	274.0	274.0	2.7	3.0	1.0	clean SAND to silty SAND	125	5.0	55	55	95	46	-	16
19.36	286.1	283.9	283.9	2.5	3.1	0.9	clean SAND to silty SAND	125	5.0	57	57	95	46	-	16
19.52	309.1	305.9	305.9	2.9	3.2	0.9	clean SAND to silty SAND	125	5.0	61	62	95	46	-	16
19.69	324.3	320.1	320.1	2.8	3.2	0.9	clean SAND to silty SAND	125	5.0	64	65	95	46	-	16
19.85	321.5	316.5	316.5	3.0	3.2	0.9	clean SAND to silty SAND	125	5.0	63	64	95	46	-	16
20.01	340.4	334.2	334.2	3.0	3.3	0.9	clean SAND to silty SAND	125	5.0	67	68	95	47	-	16
20.18	364.0	356.5	356.5	3.1	3.3	0.9	clean SAND to silty SAND	125	5.0	71	73	95	47	-	16
20.34	409.3	399.8	399.8	3.8	3.5	0.9	clean SAND to silty SAND	125	5.0	80	82	95	47	-	16
20.51	448.4	436.9	436.9	4.7	3.6	1.1	clean SAND to silty SAND	125	5.0	87	90	95	48	-	16
20.67	461.6	448.5	448.5	4.7	2.8	1.0	clean SAND to silty SAND	125	5.0	90	92	95	48	-	16
20.83	447.8	434.0	434.0	5.1	2.7	1.1	clean SAND to silty SAND	125	5.0	87	90	95	48	-	16
21.00	440.7	426.0	426.0	5.0	2.9	1.1	clean SAND to silty SAND	125	5.0	85	88	95	48	-	16
21.16	459.0	442.7	442.7	4.6	2.3	1.0	clean SAND to silty SAND	125	5.0	89	92	95	48	-	16
21.33	490.6	471.9	471.9	4.2	2.3	0.9	clean SAND to silty SAND	125	5.0	94	98	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.

The parameters listed above were determined using empirical correlations.

A Professional Engineer must determine their suitability for analysis and design.

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Project ID: Ninyo & Moore
 Data File: SDF(491).cpt
 CPT Date: 10/12/2006 2:44:32 PM
 GW During Test: 1.5 ft

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 Sounding ID: CPT-10
 Project No: 206954001
 Cone/Rig: DSA0408

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Depth	qc	qc1n	q1ncs	Slv	pore	Frct	Material	Unit	Qc	SPT	SPT	Rel	Ftn	Und	Nk
ft	PS	PS	PS	Stss	prss	Rato	Behavior	Wght	to	R-N1	R-N	Den	Ang	Shr	-
	tsf	-	-	tsf	(psi)	%	Description	pcf	N	60%	60%	%	deg	tsf	-
21.49	520.3	499.2	499.2	4.6	2.1	0.9	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16
21.65	546.7	523.3	523.3	4.8	2.0	0.9	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16
21.82	545.3	520.6	520.6	6.7	1.4	1.2	clean SAND to silty SAND	125	5.0	100	100	95	48	-	16

* Indicates the parameter was calculated using the normalized point stress.
 The parameters listed above were determined using empirical correlations.
 A Professional Engineer must determine their suitability for analysis and design.

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APPENDIX B

LABORATORY TESTING RESULTS

Soil Corrosivity Tests

Soil pH and resistivity tests were performed on two representative near-surface samples collected from hand-augered portions of the CPT holes in general accordance with CT 643. The sulfate and chloride contents of the selected samples were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are presented on Figure B-1.

SAMPLE LOCATION	SAMPLE DEPTH (FT)	pH ¹	RESISTIVITY ¹ (Ohm-cm)	SULFATE CONTENT ²		CHLORIDE CONTENT ³ (ppm)
				(ppm)	(%)	
CPT-1	0.0-3.0	7.4	3,820	210	0.021	80
CPT-7	0.0-0.4	7.3	4,090	200	0.020	190

¹ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643

² PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417

³ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

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CORROSIVITY TEST RESULTS

FIGURE

PROJECT NO.

DATE

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B-1